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FINAL REMEDIAL INVESTIGATION ADDENDUM REPORT FOR THE LIGHTER AMPHIBIOUS RESUPPLY CARGO (LARC) 60 MAINTENANCE AREA FORT STORY VA

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MALCOLM PIRNIE

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FINAL

REMEDIAL INVESTIGATION ADDENDUM REPORT

LARC 60 Maintenance Area

Installation Restoration Program
Fort Story, Virginia

U. S. Army Transportation Center
Fort Eustis, Virginia

and

U.S. Army Corps of Engineers
Baltimore District

September 2007

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FINAL

REMEDIAL INVESTIGATION REPORT ADDENDUM
LARC 60 MAINTENANCE AREA SITE

INSTALLATION RESTORATION PROGRAM
FORT STORY, VIRGINIA

PREPARED FOR:

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT
BALTIMORE, MARYLAND

AND

U.S. ARMY TRANSPORTATION CENTER
FORT EUSTIS, VIRGINIA

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Remedial Investigation Report Addendum

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Malcolm Pirnie, Inc. was contracted by the U.S. Army Corps of Engineers (USACE), Baltimore District to conduct a Remedial Investigation (RI) at the Lighterage Amphibious Resupply Cargo (LARC) 60 Maintenance Area site at Fort Story, Virginia. The Final RI Report was completed in December 2002 and recommended a Feasibility Study to evaluate remedial alternatives for remediation of contaminated groundwater; however, several investigations have been conducted at the site since finalization of the RI Report, which have changed the recommended future action for the site. This Addendum summarizes those investigations and subsequent revised conclusions and recommendations.

ES.1 INTRODUCTION

The specific purpose of this RI Addendum is to present the data that has been collected after completion of the Final RI Report and also present any revised conclusions and recommendations for further action at the site. Additional investigations conducted after submittal of the Final RI Report for the site include the following:

- 2003 Groundwater Monitoring Event
- Groundwater Pilot Scale Study
- 2004 Groundwater Monitoring Event
- 2007 Groundwater Monitoring Event

Site Description and History

A former 10,000-gallon underground storage tank (UST) was located at the north gate of the LARC 60 vehicle motor pool approximately 600 feet south of the wash rack area. This UST was installed in 1983 and used for storing used oil and degreasers. Although James M. Montgomery, Inc.'s (JMM) April 1990 field visits to this area identified soil-stained zones around the UST, there are no reports of tanks failing or leaking documented. These soil-stained areas may have been caused by overfilling or spillage during use.

Previous Investigations

A summary of previous investigations conducted at this site is provided in the table below.

PREVIOUS INVESTIGATIONS		
Investigation	**Description**	**Results**
U.S. Army Environmental Hygiene Agency (June1987)	Health risk assessment of soil contamination.	No unacceptable human health threat exists to workers at the site.

PREVIOUS INVESTIGATIONS		
Investigation	**Description**	**Results**
James M. Montgomery (January 1992)	PA/SI conducted to determine presence of contamination at site.	Total petroleum hydrocarbons (TPH) and metals detected in soils. TPH and VOCs detected in groundwater.
ERC (September 1992)	UST Initial Abatement Measures Report prepared for UST and soils removal	10,000 gallon UST and associated petroleum-stained soils removed from excavation.
IT Corporation (November 1994)	Removal action conducted to remediate soils.	Treated TPH contaminated soils on site via bioremediation.
Environmental Technology (February 1995)	UST investigation with soil and groundwater samples collected.	Numerous VOCs and TPH were detected in groundwater.
Earth Technology (April 1995)	Collection of additional soils data in the former UST excavation area.	PID results indicated that petroleum contamination was present in the soil zone above the water table but below the former excavation depth.

ES.2 FIELD INVESTIGATION PROGRAM

2003 Groundwater Monitoring Event

To supplement the data gathered during previous investigations and to further refine the plume configuration for the pilot scale study, six additional monitoring wells were installed and developed at the site. Groundwater samples were collected from eight existing and six newly installed wells at the LARC 60 site. Samples were analyzed for Target Compound List (TCL) VOCs using Method 8260.

Groundwater Pilot Scale Study

A Pilot Study was conducted in 2004 to evaluate the effectiveness of in-situ chemical oxidation using sodium permanganate ($NaMnO_4$) for reducing the concentration of the VOCs in the groundwater in the former UST area of the site. The treatment area is located just north of the former UST Area. This area was chosen due to its relatively high concentrations of VOCs, the variety of contaminants detected, and its designation as the probable, former source for site contamination.

2004 Groundwater Monitoring Event

A site-wide groundwater monitoring event was conducted in June and July 2004 to assess the current VOC concentrations across the site after completion of the Groundwater Pilot Scale Study. The monitoring well samples were only analyzed for VOCs during this site-wide event, which includes

the collection and analysis of samples from 14 monitoring wells.

2007 Groundwater Monitoring Event

Malcolm Pirnie collected groundwater samples from six wells (MW-117, 6MW-5S, 6MW-3S, 6MW-7, 6MW-9, and 6MW-11) in May 2007 to assess the current groundwater quality at the site as it relates to VOC and polynuclear aromatic hydrocarbon (PAH) contamination.

ES.3 GROUNDWATER SAMPLING RESULTS

Numerous VOCs, as well as two PAHs (naphthalene and 2-methylnaphthalene), have been detected in wells at the site over the 12-year monitoring period. However, historically VOCs have only exceeded the MCL (or RBC when an MCL was not available) in four wells (MW-117, 6MW-3S, 6MW-7, and 6MW-9) at the site. The effects of the sodium permanganate injections on groundwater quality in the former source area is evident by the continued decrease in VOC concentrations in MW-117, which is located directly downgradient of the former source area where the injections took place. Historically, the most impacted downgradient well has been 6MW-3S with cis 1,2-DCE, PCE, TCE, and vinyl chloride exceeding the MCLs in the 2004 monitoring data. Although still detected in 2007, none of these compounds exceed their respective MCL. Monitoring well 6MW-9 is located directly downgradient of 6MW-3S, but none of the compounds detected in 6MW-3S were detected in 6MW-9 during the 2007 sampling event indicating minimal downgradient migration.

ES.4 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Human Health Risk

The potential for future development of the land as commercial, residential, or recreational properties is not expected as the installation will remain open and the area will continue to be identified as industrial usage. It is expected that the land will continue to be used for industrial purposes and that groundwater will continue not to be utilized. If land use conditions change in the future, possible exposure scenarios (e.g., residential exposure to soil and groundwater if residential development was planned) will be re-evaluated. This conclusion is a revision from the text provided in the baseline human health risk assessment presented in the Final RI Report for the site. Based on guidance provided by the USAEC, unless residential development is expected or planned in the future for an installation, the residential land use scenario will not be evaluated for future land use conditions.

Because potential risk was only identified for the future scenario of residential development at the site during the RI, no human health risk has been identified for the LARC 60 site.

Ecological Risk

As presented in the Final RI Report, ecologically, much of the site provides little value to wildlife for foraging or nesting habitat. Therefore, the risks to wildlife associated with the ongoing activities at the LARC 60 Maintenance Area are considered low.

Groundwater Contamination

Numerous VOCs, as well as two PAHs (naphthalene and 2-methylnaphthalene), have been detected in wells at the site over the 12-year monitoring period, but a few exceedences of the MCLs over this period have been noted primarily in two wells: (1) MW-117, which is located downgradient of the former source area and (2) 6MW-3S, which is located further downgradient of the former source area.

Sodium permanganate injections positively impacted groundwater quality in the former source area and is evident by the continued decrease in VOC concentrations in MW-117, which is located directly downgradient from where the injections took place. Decreasing trends downgradient of the former source area have also been noted.

Recommendations

Other than preparation of a Decision Document, **no further action** is recommended for the LARC 60 site based on the limited contamination detected in site groundwater and that no potential unacceptable human health or ecological risks were identified.

It is also recommended that two additional groundwater monitoring events be conducted. These events will include groundwater sampling of the same six wells that were sampled in May 2007 and will focus on monitoring wells with previous exceedences of MCLs; however, every effort should be made to locate monitoring well 6MW-8 for its inclusion in this monitoring program because of its location downgradient of the VOC-impacted area. If this well cannot be located, then another downgradient monitoring well (6MW-11) will be sampled during this program.

If a site-related MCL exceedence occurs during either of the two sampling events, it is recommended that two additional rounds of groundwater monitoring, after completion of the original two events, be conducted to confirm that a site-related concern exists or that the exceedence was an anomalous event. If the monitoring events indicate that COC concentrations exceed MCLs and the concentrations are not simply an anomalous event, then a re-assessment of potential risks and remedies will be warranted.

Malcolm Pirnie, Inc. was contracted by the U.S. Army Corps of Engineers (USACE), Baltimore District to conduct a Remedial Investigation (RI) at the Lighterage Amphibious Resupply Cargo (LARC) 60 Maintenance Area site at Fort Story, Virginia. The Final RI Report was completed in December 2002 and recommended a Feasibility Study to evaluate remedial alternatives for remediation of groundwater contaminated with chlorinated volatile organic compounds (VOCs) underlying the LARC 60 site; however, several investigations (three groundwater monitoring events and a Groundwater Pilot Scale Study) have been conducted at the site since finalization of the RI Report, which have changed the recommended future action for the site. This Addendum summarizes those investigations and subsequent revised conclusions and recommendations.

Benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl isobutyl ketone (MIBK), 2-methylnaphthalene, naphthalene, tetrachloroethene (PCE), trichloroethene (TCE), cis 1,2-dichloroethene (cis 1,2-DCE), and vinyl chloride were detected in groundwater above EPA risk screening criteria (EPA Region III Risk-Based Concentrations [RBCs] and/or EPA Maximum Contaminant Levels [MCLs]) during the RI.

1.1 PURPOSE OF REPORT

The work was conducted under the requirements of the Department of Defense (DOD) Installation Restoration Program (IRP) that are consistent with the U.S. Environmental Protection Agency (EPA) guidelines. The EPA guidelines followed during the RI are set forth in "Guidance on Remedial Investigations and Feasibility Studies under CERCLA" (EPA, 1988). All work was conducted in accordance with the Scopes of Services developed by the USACE.

The activities in the RI and this Addendum are geared towards collecting the information necessary to evaluate the type and magnitude of contamination as well as the transport mechanisms and impacts of contamination on various media such as groundwater and soil. The specific objectives of the RI were:

- Delineation of the nature and extent of contamination
- Evaluation of potential migration of contaminants
- Assessment of risks to human health and the environment
- Development of recommendations for future action based on the findings

The specific purpose of this RI Addendum is to present the data that has been collected after completion of the Final RI Report and also present any revised conclusions and recommendations for further action at the site. Additional investigations conducted after submittal of the Final RI Report for the site include the following:

- 2003 Groundwater Monitoring Event
- Groundwater Pilot Scale Study

- 2004 Groundwater Monitoring Event
- 2007 Groundwater Monitoring Event

1.2 BACKGROUND

1.2.1 Site Description and History

The LARC 60 Maintenance Area, which is the maintenance and wash rack area for LARC 60 vehicles, is located in the sand flat area that lies between the coastal dune complex to the north and the central sand ridge to the south. The LARC 60 area includes Buildings 1081, 1082, 1083 and 1088. During the 1950s, the wash rack area was first used as the barge amphibious resupply cargo (BARC) motor pool and maintenance facility. In 1964, the BARC vehicle was phased out and the LARC 60 vehicle was prototyped. Presently, Fort Story is the only base on the East Coast available to the Army Transportation Corps for amphibious training. In 1982, the LARC 60 facility was modified with the construction of a concrete wash rack pad. Approximately 39 catch basins are located throughout the LARC 60 site, which are used for collection of storm and wash water. Heavy equipment is currently stored awaiting maintenance, and operated on the concrete wash rack and Sandbox Area.

A former 10,000-gallon underground storage tank (UST) was located at the north gate of the LARC 60 vehicle motor pool approximately 600 feet south of the wash rack area. This UST was installed in 1983 and used for storing used oil and degreasers. Although James M. Montgomery, Inc.'s (JMM) April 1990 field visits to this area identified soil-stained zones around the UST, there are no reports of tanks failing or leaking documented. These soil-stained areas may have been caused by overfilling or spillage during use. In 1987, the U.S. Army Environmental Hygiene Agency sampled the UST and found it contained oil, water, 1,1,1-trichloroethane and chromium. In September 1992, the Environmental Restoration Company (ERC) removed the waste oil UST and excavated petroleum-stained soils an additional three feet from the sides and bottom of the excavation. The specific volume of soils removed is not known.

1.2.2 Previous Investigations

A summary of previous investigations conducted at this site is provided in the table below.

PREVIOUS INVESTIGATIONS		
Investigation	**Description**	**Results**
U.S. Army Environmental Hygiene Agency (June1987)	Health risk assessment of soil contamination.	No unacceptable human health threat exists to workers at the site.

PREVIOUS INVESTIGATIONS		
Investigation	**Description**	**Results**
James M. Montgomery (January 1992)	PA/SI conducted to determine presence of contamination at site.	Total petroleum hydrocarbons (TPH) and metals detected in soils. TPH and VOCs detected in groundwater.
ERC (September 1992)	UST Initial Abatement Measures Report prepared for UST and soils removal	10,000 gallon UST and associated petroleum-stained soils removed from excavation.
IT Corporation (November 1994)	Removal action conducted to remediate soils.	Treated TPH contaminated soils on site via bioremediation.
Environmental Technology (February 1995)	UST investigation with soil and groundwater samples collected.	Numerous VOCs and TPH were detected in groundwater.
Earth Technology (April 1995)	Collection of additional soils data in the former UST excavation area.	PID results indicated that petroleum contamination was present in the soil zone above the water table but below the former excavation depth.

U.S. Army Environmental Hygiene Agency Risk Assessment

The U.S. Army Environmental Hygiene Agency (USAEHA) conducted a Health Risk Assessment in June 1987 at the LARC 60 Maintenance Area to determine if an unacceptable health threat exists to workers at the site. USAEHA detected grease, oil, lead and chromium in soil north of the wash rack (Sandbox Area). For the contaminants, the excess, upper bound, lifetime cancer risk estimate calculated was within the range considered acceptable to the EPA. In addition, the hazard index derived was less than one, indicating that non-carcinogenic health effects would not be expected. Based on the quantitative risk assessment, USAEHA concluded that an unacceptable human health threat does not exist to workers at the site.

James M. Montgomery, Inc. (JMM) Preliminary Assessment/Site Investigation

Preliminary Assessment/Site Investigation (PA/SI) activities were conducted in 1991 and 1992 by James M. Montgomery, Inc. (JMM, 1992). JMM conducted the PA/SI to determine the presence of significant contamination at eight sites including the LARC 60 Maintenance Area.

At the facility, several analytes were detected in the soil at levels above the trigger levels (i.e., Virginia UST standards for TPH, Toxic Substance Control Act [TSCA] standards for polychlorinated biphenyls [PCBs], and background concentrations for all other contaminants). The site has two main areas of possible environmental concern: the wash rack area, which has an oil/water separator, and

the former UST area. Total fuel hydrocarbons, copper, zinc, and lead were detected above trigger levels at the site.

As with soil samples, numerous analytes were detected in groundwater above trigger levels at the wash rack and UST areas. Benzene, vinyl chloride, total fuel hydrocarbons, and 1,1-DCE were detected above trigger levels.

A Remedial Investigation/Feasibility Study (RI/FS) was recommended at the LARC 60 Maintenance Area and three other sites.

ERC Initial Abatement Measures Study

On September 28, 1992, ERC removed one 10,000 gallon UST that contained used oil from Building 1081. Based on the report, the removal of the UST resulted in an excavation depth of approximately 12.5 feet below land surface (BLS). The initial excavation was reported to be to a depth of 9.5 feet BLS with an additional three feet of petroleum-contaminated soil removed from the sides and bottom of the excavation. According to the report, the stained soils were placed back into the excavation.

Three grab samples were collected by ERC personnel from the bottom of the excavation while one composite soil sample was collected from the staged soils. These soil samples were analyzed for total petroleum hydrocarbons (TPH) by EPA Method 418.1. TPH concentrations in the samples from the bottom of the excavation ranged from 36,353 to 62,823 milligrams per kilogram (mg/kg) while the composite samples from the stage soil pile had a TPH concentration of 12,173 mg/kg.

IT Corporation Removal Action

IT Corporation (IT, 1994) conducted several rapid response removal actions at Fort Story in 1994, including the LARC 60 Maintenance Area. IT Corporation reported that the following activities were performed at the site:

- Disposal off-site of two piles of soil believed to contain F-listed solvents.
- Designed and installed an in situ bioremediation system for the treatment of TPH-contaminated soils.
- Excavated and treated approximately 14,600 cubic yards of soil within the LARC 60 Sandbox to a TPH level of less than 50 parts per million (ppm). The soils were transferred to the bioremediation system for treatment.
- Placed remediated soils back in the excavated area. However, due to the presence of heavy oils and greases in the soils, the 50 ppm treatment goal could not be reached with the bioremediation process. TPH concentrations remaining in treated soils ranged from non-detect to 4,800 ppm with an average concentration of 229 ppm (by Method 8015) and 751 ppm (by USEPA Method 418.1) remaining in soils.

Environmental Technology of North America, Inc., UST Investigation

In February 1995, Environmental Technology of North America, Inc. (ETI) through a USACE, Norfolk District contract, collected soil and groundwater samples by direct push technology (DPT) from the former UST pit at the southern end of the site to determine groundwater quality in that location. TPH, toluene, ethylbenzene and xylene were detected in soils from the pit and from stockpiled soils. Numerous chlorinated organics were detected in the groundwater sample including TPH (180 mg/l), tetrachloroethene (2,700 micrograms per liter (*µg/l*), trichloroethene (8,800 *µg/l*), and cis 1,2-dichloroethene (5,200 *µg/l*).

Earth Technology Soil Sampling Event

Based on continuing issues with the data provided in the ERC Initial Abatement Measures study report, the VDEQ requested additional information and clarification. The ERC report indicated that an excavation 9.5 feet BLS was observed after the tank removal followed by an additional three feet of petroleum-stained soils removed from the bottom and the sides of the excavation. According to ERC's report, the excavation was then backfilled with the contaminated soil. Based on this information, the VDEQ requested sampling of the backfill soils. Upon mobilization to the site and performance of the field activities, Earth Tech made the following observations:

- The excavated pit had been backfilled with clean sand, lithologically different from the native material.
- The depth of the excavation did not extend beyond 9.5 feet BLS.
- Soil from the original excavation activities were stockpiled adjacent to the excavation and not placed back into the excavation.

In April 1995, Earth Tech collected soil samples from the backfill material and the native soils underlying the backfilled soils. Field observations of the underlying soil material indicated higher photoionization detector (PID) readings than those in the backfill material, but showed no evidence of fuel-saturated soils or free product. Based on the data collection effort, no additional excavation of material was warranted from the former UST excavation area.

1.3 RISK ASSESSMENT SUMMARY

Human Health Risk Assessment Revision

No adverse exposures to chemicals of potential concern are anticipated for Fort Story personnel or trespassers in the current situation. This is the case for cancer and non-cancer risks in all media types.

Based on master planning issues for Fort Story, which does not include base closure (most recent

BRAC did not include Fort Story as a potential candidate), as well as its unique location and subsequent training environs, the facility is expected to remain government property. The potential for future development of the land as commercial, residential, or recreational properties is not expected as the installation will remain open and the area will continue to be identified as industrial usage; therefore, the future land use will be the same as the current land use. If land use conditions change in the future, possible exposure scenarios (e.g., residential exposure to soils and groundwater if residential development was planned) will be re-evaluated. This conclusion is a revision from the text provided in the baseline human health risk assessment presented in the Final RI Report for the site. Based on guidance provided by the U.S. Army Environmental Command (USAEC), unless residential development is expected or planned in the future for an installation, the residential land use scenario will not be evaluated for future land use conditions.

Because potential risk was only identified for the future scenario of residential development at the site during the RI, no human health risk has been identified for the LARC 60 site.

Ecological Risk Assessment

It was recommended in the Ecological Risk Assessment (ERA) presented in the Final RI Report that no further investigation of ecological risk be conducted for the site. Ecologically, much of the site provides little value to wildlife for foraging or nesting habitat. Therefore, the ecological risks to wildlife associated with the ongoing activities at the LARC 60 Maintenance Area are considered low.

This section documents specific field investigation programs conducted after finalization of the RI Report in December 2002. Three groundwater monitoring events, as well as a Groundwater Pilot Scale Study, have been conducted since the RI Report was finalized. A summary of each of these investigations is presented below in chronological order.

2.1 2003 GROUNDWATER MONITORING EVENT

Malcolm Pirnie, Inc. was contracted by the USACE Baltimore District to install additional wells and conduct additional groundwater monitoring in support of an upcoming Groundwater Pilot Scale Study at the site under Contract DACA31-00-D-0043.

Benzene, toluene, ethylbenzene, and xylenes (BTEX) methyl isobutyl ketone (MIBK), 2-methylnaphthalene, naphthalene, tetrachloroethene (PCE), trichloroethene (TCE), cis 1,2-dichloroethene (cis 1,2-DCE), and vinyl chloride were detected in groundwater above EPA risk screening criteria (EPA Region III Risk-Based Concentrations [RBCs] and/or EPA Maximum Contaminant Levels [MCLs]) during the RI. To assist in the planned Groundwater Pilot Scale Study and to further refine the contaminant plume configuration at the site, the installation and sampling of additional monitoring wells was required.

Investigation Program

Investigation Methodologies

The investigation methodologies for monitoring well installation, decontamination, and site restoration were described in the previously approved Field Investigation Plan, dated December 1994 and were utilized for this investigation. Procedures for monitoring well sampling (all wells have QED Environmental Systems Inc. well pumps) utilized in this investigation were described in Section 1.4.1 of the *Final Work Plan Addendum, Groundwater Investigations, Treatability/Feasibility Study*, dated December 2002, which was reviewed and approved by the VDEQ.

Monitoring Well Installations

To supplement the data gathered during previous investigations and to further refine the plume configuration for the TS, six additional monitoring wells were installed and developed at the site. The wells were installed at the following locations:

- Cluster wells (one shallow and one deep) (6MW-5S and 6MW-5D) were installed approximately 300 feet downgradient of the former UST location.
- One well (6MW-6) was installed approximately 200 feet west of the cluster wells.
- One well (6MW-7) was installed approximately 200 feet east of the cluster wells.

- One well (6MW-8) was installed approximately 300 feet east of the cluster wells 6MW-3S and 6MW-3D.
- One well (6MW-9) was installed approximately 300 feet downgradient (north) of the cluster wells 6MW-3S and 6MW-3D.

The location of each well (new and existing) is presented on **Figure 2-1.** The groundwater contours provided on **Figure 2-1** are based on data collected during the 2004 sampling event.

Each well has a 10-foot screened interval with one foot of the screened interval set above the water table interface. The depth to water across the site was approximately 2.5 to 8 feet below land surface. The deep well (6MW-5D) was screened at a depth of 30 to 40 feet below land surface to assess any vertical migration of contaminants. This is the approximate depth that the other two existing deeper wells (6MW-2 and 6MW-3D) are screened.

Groundwater Sampling

Prior to sampling activities, QED Ferret well pumps were installed for the six new wells. Groundwater samples were collected from eight existing and six newly installed wells at the LARC 60 site. The locations of these monitoring wells are provided on **Figure 2-1**. Samples were analyzed for Target Compound List (TCL) VOCs using Method 8260.

2.2 GROUNDWATER PILOT SCALE STUDY

2.2.1 Background

To support a planned Feasibility Study, Malcolm Pirnie, Inc. was contracted by the USACE Baltimore District to conduct a Groundwater Pilot Scale Study at the LARC 60 Maintenance Area site at Fort Story, Virginia under Contract DACA31-00-D-0043.

The Pilot Study was conducted to evaluate the effectiveness of in-situ chemical oxidation using sodium permanganate ($NaMnO_4$) for reducing the concentration of the VOCs in the groundwater in the former underground storage tank (UST) area of the site. The treatment area is located just north of the former UST Area. This area was chosen due to its relatively high concentrations of VOCs, the variety of contaminants detected, and its designation as the probable, former source for site contamination.

This Pilot Study was conducted in accordance with the *Work Plan Addendum, Treatability Study, LARC 60 Maintenance Area, Fort Story,* dated May 2003 prepared by Malcolm Pirnie. The goals of the Pilot Study were as follows:

- Gather data to evaluate the effectiveness of chemical oxidation using a permanganate compound (sodium or potassium) as a remedial technology at the site.
- Gather data on contaminant rebound within the study area.
- Gather data to evaluate the effectiveness of chemical oxidant delivery via direct push methods.
- Provide initial steps toward remediating groundwater by reducing levels of VOCs in the test area.
- Quantify (via groundwater sampling) post-injection contaminant concentrations including any rebound effects.
- Quantify oxidant quantity for full-scale implementation of chemical oxidation.

2.2.2 Pilot Study $NaMn0_4$ Injections

The Pilot Study consisted of two phases of $NaMnO_4$ solution application. The methods followed and results obtained for each phase are described in detail in the following sections.

Malcolm Pirnie contracted with In-Situ Oxidative Technologies, Inc. (ISOTEC) to perform the $NaMnO_4$ injections throughout the course of the Pilot Study. $NaMnO_4$ exists as either a fine powder that is dissolved in water prior to injection or liquid concentrate available in higher concentrations. Liquid concentrate was used for both injection events at the site. $NaMnO_4$ was selected over $KMnO_4$ because a slightly higher solubility rate in water and is slightly more stable. ISOTEC used a recirculating mixer assembly to mix the $NaMnO_4$ with potable water obtained from a nearby fire hydrant. Although the Pilot Work Plan Addendum specified using 34 pounds of permanganate, this applied to the amount of potassium permanganate that would have been used. Since $NaMnO_4$ was used instead, an equivalent $NaMnO_4$ dose equal to 110 pounds (lbs) per point was utilized. Therefore, 110 lbs (approximate 1% solution) of $NaMnO_4$ solution per point for both injections events was planned. However, due to the need for a higher dose for the second event (based on groundwater data after the 1st injection), approximately 550 lbs (8% solution) per point was injected during the 2nd event.

Specific information and photographs related to each injection event is presented in the *Groundwater Pilot Study Report*, dated November 2004, provided in **Appendix A**.

2.2.3 Pilot Scale Monitoring

1st Injection Event Monitoring

Groundwater samples were collected from several monitoring wells and injection points prior to the 1st injection event at the site. In addition, a saturated soil sample was collected to assess the extent of sorbed contamination in the treatment area. A summary of these monitoring events is presented below.

Pre-Injection Monitoring Well Sampling

A temporary monitoring well (TW-01) was constructed approximately 60 feet downgradient of the injection points to monitor impacts of the sodium permanganate injections over a period of time after completion of the injections. Prior to the injection events, this well was sampled and analyzed for iron, chlorides, total organic carbon (TOC), diesel and gasoline range petroleum-related organics (TPH DRO and TPH GRO), and VOCs. The other downgradient well (MW-117) was sampled for iron, chlorides, and VOCs. Both wells were sampled on July 25, 2003.

Pre-Injection Saturated Soil Sampling

A saturated soil sample was collected on July 25, 2003 during the installation of TW-01 to assess the extent of any sorbed contamination in the treatment area. The soil sample was analyzed for TOC, TPH DRO, TPH GRO, and VOCs.

Injection Point Monitoring

Prior to the 1st injection event, samples were collected from five injection points and analyzed for chloride, ferrous iron, and field parameters (i.e., temperature, specific conductivity, turbidity, pH, and dissolved oxygen (DO)).

2nd Injection Monitoring

Prior to the 2nd injection event, samples were collected from five injection points and analyzed for chloride, ferrous iron, and field parameters (i.e., temperature, specific conductivity, turbidity, pH, and dissolved oxygen (DO)).

Rebound Monitoring

It was anticipated that after the injections ceased, $NaMnO_4$ concentrations would gradually diminish to below detection and VOC concentrations would gradually rise from below detection to detectable values. This rebound in VOC concentrations is due to reverse diffusion and cross flow that can transport VOCs into the treated zone from any untreated zones. Rebound monitoring was conducted to monitor the rate of $NaMnO_4$ dissipation, iron and chloride concentrations, and subsequent VOC concentration rebound.

A summary of the rebound monitoring data after each injection event is provided below.

Rebound Monitoring – 1st Injection Event

Rebound monitoring was started immediately after the end of the 1st injection event through the

collection of water samples from MW-117 and TW-01 weekly (for 6 weeks) for iron, chloride, $NaMnO_4$ presence observation, and field parameters (i.e., temperature, specific conductivity, turbidity, pH, and DO). On the 6th weekly monitoring event, the wells and the saturated soils were also sampled and analyzed for TPH-DRO, TOC, and VOCs.

Rebound Monitoring – 2nd Injection Event

Rebound monitoring was started immediately after the end of the 2nd injection event through the collection of water samples from MW-117 and TW-01 weekly (for 4 weeks) for iron, chloride, $NaMnO_4$ presence observation, and field parameters (i.e., temperature, specific conductivity, turbidity, pH, and DO). Weekly sampling was discontinued after the 4th week because permanganate was not observed in the well during that event. On the 5th weekly monitoring event, MW-117 was only sampled and analyzed for VOCs and the field parameters. Due to lack of sorbed-phase contamination in the treatment area as indicated in the rebound monitoring conducted after the 1st injection event, no additional saturated soils were collected after the 2nd injection event.

2.3 2004 GROUNDWATER MONITORING EVENT

Malcolm Pirnie, Inc. was contracted by the USACE Baltimore District to conduct additional groundwater monitoring in support of the Groundwater Pilot Scale Study. In addition to the rebound monitoring conducted at MW-117 and TW-01 within the treatment zone of the pilot study, a site-wide groundwater monitoring event was conducted in June and July 2004 to assess the current VOC concentrations across the site after completion of the Groundwater Pilot Scale Study. The monitoring well samples were only analyzed for VOCs during this site-wide event, which includes the collection and analysis of samples from 14 monitoring wells. Although 16 monitoring wells are present at the site, due to past monitoring results which indicate minimal VOC detects and that these wells are not located downgradient of the former source area, wells 6MW-1 and 6MW-4 were not sampled during this event. The samples were collected through use of dedicated QED well pumps.

2.4 2007 GROUNDWATER MONITORING EVENT

Malcolm Pirnie collected groundwater samples from six wells (MW-117, 6MW-5S, 6MW-3S, 6MW-7, 6MW-9, and 6MW-11) in 2007 to assess the current groundwater quality at the site as it relates to VOC and polynuclear aromatic hydrocarbon (PAH) contamination. It was originally planned to collect samples from 6MW-8 in 2007 because this well was located downgradient of the area with detected VOC contamination but it could not be located due to it's presence in a highly sandy vegetated area.

The samples were collected through use of dedicated QED well pumps. The monitoring event was conducted to assess the nature of residual VOC and PAH contamination several years after completion of the Groundwater Pilot Scale Study that remediated contamination within the source area of the site.

The above referenced wells were selected for the following reasons:

- MW-117: This well is located directly downgradient of the former source area and cis 1,2-DCE, PCE, TCE, and vinyl chloride have been detected above MCLs.

- 6MW-3S: This well is located downgradient of the former source area with cis 1,2-DCE, PCE, TCE, and vinyl chloride detects above MCLs.

- 6MW-7: This well is located downgradient of the former source area with one detect of PCE above the MCL.

- 6MW-5S, 6MW-8, and 6MW-9: These wells are located downgradient of the former source area with no detects above the MCLs, but migration in these areas may have occurred over the past several years. It should be noted that the 2003 6MW-9 MCL exceedence (1 µg/L for 1,4-dichlorobenzene) appears to be the result of cross-contamination, since it also was detected in the associated method blank for that sample. As previously stated, 6MW-8 could not be located during the sample collection activities; therefore, 6MW-11 was sampled instead.

Three groundwater monitoring sampling events, as well as a Groundwater Pilot Scale Study, were conducted since the RI Report was finalized. A summary of the groundwater results associated with each of these investigations is presented below in chronological order.

3.1 GROUNDWATER MONITORING DATA

3.1.1 2003 Groundwater Monitoring Data

As part of the investigations to further refine plume configuration, groundwater samples were collected from 14 monitoring wells and analyzed for VOCs. VOC results for the groundwater samples are provided in **Table 3-1**. Numerous VOCs were detected in the samples. A summary of concentration ranges, detection frequencies, and comparison to EPA MCLs is provided in the following table:

VOC	Range	Detection Frequency	Frequency above EPA MCL
Acetone	4.0 to 32.0	4 / 14	---
Benzene	0.1 to 0.6	3 / 14	0 / 14
Chlorobenzene	0.3 to 9.0	2 / 14	0 / 14
Cyclohexane	15.0	1 / 14	---
1,2-Dichlorobenzene	0.2	2 / 14	0 / 14
1,3-Dichlorobenzene	0.5	1 / 14	---
1,4-Dichlorobenzene	0.2 to 1.0	9 / 14	0 / 14
Cis 1,2-DCE	1.0 to 22.0	2 / 14	0 / 14
Ethylbenzene	29.0	1 / 14	0 / 14
Isopropylbenzene	12.0	1 / 14	---
Methylene chloride	0. 2 to 0.3	6 / 14	0 / 14
Methylcyclohexane	26.0	1 / 14	---
PCE	0.4 – 11.0	3 / 14	1 / 14
Toluene	0.4 – 1.0	14 / 14	0 / 14
1,2,4-Trichlorobenzene	0.3	1 / 14	0 / 14
TCE	0.5 to 1.0	3 / 14	0 / 14
Vinyl chloride	1.0	1 / 14	0 / 14
Xylenes	130.0	1 / 14	0 / 14

PCE was the only VOC detected above EPA MCLs and it was detected above the 5 µg/L MCL in only one well (6MW-7). The analytical data sheets for this monitoring event are provided in **Appendix B**.

3.1.2 Groundwater Pilot Scale Study Data

The monitoring associated with the Groundwater Pilot Scale Study was conducted to assess the effectiveness of the sodium permanganate injections at the site near the source area (former UST) rather than to assess VOC contamination on a site-wide basis. A summary of the monitoring associated with the Pilot Scale Study is presented in the *Groundwater Pilot Study Report* provided in **Appendix A**.

3.1.3 2004 Groundwater Monitoring Data

The groundwater monitoring was conducted in 2004 to assess, on a site-wide basis, the extent of VOC contamination fully one year after completion of the Groundwater Pilot Scale Study to see if concentrations were decreasing based on the injection of sodium permanganate into the subsurface at the former source area. As shown in **Table 3-1**, numerous VOCs were detected throughout the site. A summary of the VOC detects is presented in the following table:

VOC	Range	Detection Frequency	Frequency above EPA MCL
Acetone	2.9 to 270	6 / 14	---
Bromodichloromethane	0.83	1 / 14	0 / 14
2-Butanone (MEK)	1.5 to 21	4 / 14	0 / 14
Carbon disulfide	0.22 to 0.83	2 / 14	0 / 14
Chloroform	3.3	1 / 14	0 / 14
Cyclohexane	2.7	1 / 14	---
Dibromochloromethane	0.12	1 / 14	0 / 14
1,2-Dichlorobenzene	0.16	1 / 14	0 / 14
1,1-Dichloroethane	0.34	1 / 14	---
1,1-DCE	1.3	1 / 14	0 / 14
Cis 1,2-DCE	0.15 to 100	6 / 14	1 / 14
Trans 1,2-DCE	0.25 to 0.87	2 / 14	0 / 14
Ethylbenzene	6.8	1 / 14	0 / 14
Isopropylbenzene	6.2	1 / 14	---

VOC	Range	Detection Frequency	Frequency above EPA MCL
Methylene chloride	0. 14 to 3.3	9 / 14	0 / 14
Methylcyclohexane	16.0	1 / 14	---
MIBK	4	1 / 14	---
PCE	0.49 to 62	4 / 14	1 / 14
Styrene	0.12	1 / 14	0 / 14
Toluene	0.10 – 0.42	8 / 14	0 / 14
1,2,4-Trichlorobenzene	0.15	1 / 14	0 / 14
TCE	0.1 to 140	4 / 14	1 / 14
Vinyl chloride	0.2 to 9.7	2 / 14	1 / 14
Xylenes	65.0	1 / 14	0 / 14

VOCs exceeded EPA MCLs in only one well (6MW-3S) with cis 1,2-DCE, PCE, TCE, and vinyl chloride exceeding their respective MCLs. The analytical data sheets for this monitoring event are provided in the Groundwater Pilot Study Report presented in **Appendix A.**

3.1.4 2007 Groundwater Monitoring Data

To continue to evaluate the extent of groundwater contamination at the LARC 60 site, groundwater samples were collected from the three wells where previous detects above the EPA MCLs had been noted, as well as three additional monitoring wells located downgradient of the former source area. The purpose of the monitoring event was a continued assessment of the nature of residual VOC and PAH contamination several years after completion of the Groundwater Pilot Scale Study which remediated contamination within the source area of the site.

As shown in **Table 3-1**, numerous VOCs were detected throughout the site. A summary of the VOC detects is presented in the following table:

VOC	Range	Detection Frequency	Frequency above EPA MCL
Acetone	2.0 to 4.5	6 / 6	---
Benzene	0.12 to 0.24	6 / 6	0 / 6

VOC	Range	Detection Frequency	Frequency above EPA MCL
Carbon disulfide	0.11 to 3.5	4 / 6	0 / 6
Cyclohexane	0.16 to 0.51	6 / 6	---
Cis 1,2-DCE	0.88 to 2	2 / 6	0 / 6
Ethylbenzene	0.11 to 1.4	2 / 6	0 / 6
Methylene chloride	0.16	1 / 6	0 / 6
Methylcyclohexane	8.1	1 / 6	---
PCE	0.33 to 1.3	2 / 6	0 / 6
TCE	1.9	1 / 6	0 / 6
Xylenes	13.0	1 / 6	0 / 6

As presented above, VOCs continue to be detected at the site; however, no VOCs exceeded EPA MCLs in any of the six wells sampled in 2007.

Due to the noted presence of naphthalene and 2-methylnaphthalene above the EPA RBCs for tap water during the RI sampling event, PAHs were analyzed as well during this monitoring event. Naphthalene and 2-methylnaphthalene were only detected in one well (MW-117) during this monitoring event at concentrations of 5.1 and 5.3 µg/L, respectively. Although no EPA MCL has been established for these two compounds, their concentrations are below the EPA RBCs for tap water of 24 µg/L for 2-methylnaphthalene and 6.5 µg/L for naphthalene. The naphthalene detect of 5.3 µg/L is also less than the EPA lifetime health advisory of 100 µg/L. No such advisory has been established for 2-methylnaphthalene. The analytical data for this monitoring event are provided in **Appendix B**.

3.2 GROUNDWATER DATA SUMMARY

As shown in **Table 3-1**, numerous VOCs, as well as two PAHs (naphthalene and 2-methylnaphthalene), have been detected in wells at the site over the 12-year monitoring period. However, historically VOCs have only exceeded the MCL (or RBC when an MCL was not available) in four wells (MW-117, 6MW-3S, 6MW-7, and 6MW-9) at the site. It should be noted that the 2003 6MW-9 MCL exceedence (1 µg/L for 1,4-dichlorobenzene) appears to be the result of cross-contamination, since it also was detected in the associated method blank for that sample.

A summary of the MCL exceedences by sampling event is presented in the following table:

VOC	MCL Exceedences by Sampling Event				
	1995	2000	2003	2004	2007
Cis 1,2-DCE		MW-117: 1,900 µg/L		6MW-3S: 100 µg/L	None
PCE	MW-117: 8.5 µg/L		6MW-7: 11 µg/L	6MW-3S: 62 µg/L	None
TCE	MW-117: 18 µg/L			6MW-3S: 140 µg/L	None
Vinyl chloride		MW-117: 8.6 µg/L 6MW-3S: 3.1 µg/L		6MW-3S: 9.7 µg/L	None

The effects of the sodium permanganate injections on groundwater quality in the former source area is evident by the continued decrease in VOC concentrations in MW-117, which is located directly downgradient of the former source area where the injections took place. It should be noted that there was a downtrend in VOC concentrations in MW-117 prior to the injections as noted in the 2003 groundwater data from MW-117. From the 1995 to 2000 to 2003 monitoring events, concentrations of cis 1,2-DCE, ethylbenzene, PCE, toluene, TCE, xylenes and vinyl chloride decreased. The post-injection data for MW-117 (2004 to 2007) suggests a continued downward trend with cis 1,2-DCE concentrations decreasing from 24 to 2 µg/L, PCE from 0.67 µg/L to non-detect, and xylenes from 65 to 13 µg/L.

Historically, the most impacted downgradient well has been 6MW-3S with cis 1,2-DCE, PCE, TCE, and vinyl chloride exceeding the MCLs in the 2004 monitoring data. Although still detected in 2007, none of these compounds exceed their respective MCL. Monitoring well 6MW-9 is located directly downgradient of 6MW-3S but none of these compounds were detected in 2007. There are several reasons for the decreasing trends downgradient including: (1) impact of the sodium permanganate injections upgradient have greatly decreased the concentrations of these VOCs at the source area, thereby reducing the mass of VOCs present that can continually leach into groundwater or be transported downgradient, (2) with the reduction of source mass concentrations, infiltration, which is high because of the sandy soils and shallow groundwater present, reduces concentrations throughout the site, and (3) albeit slow because of the relatively flat groundwater gradient, dispersion of contaminants will have somewhat of an effect on VOC concentrations.

A summary of the conclusions and recommendations associated with post-RI activities conducted at the LARC 60 site are presented below.

4.1 CONCLUSIONS

4.1.1 Risk Assessment

Human Health Risk

The potential for future development of the land as commercial, residential, or recreational properties is not expected as the installation will remain open and the area will continue to be identified as industrial usage; therefore, it is expected that the land will continue to be used for industrial purposes and that groundwater will continue not to be utilized. If land use conditions change in the future, possible exposure scenarios (e.g., residential exposure to soil and groundwater if residential development was planned) will be re-evaluated. This conclusion is a revision from the text provided in the baseline human health risk assessment presented in the Final RI Report for the site. Based on guidance provided by the USAEC, unless residential development is expected or planned in the future for an installation, the residential land use scenario will not be evaluated for future land use conditions.

Because potential risk was only identified for the future scenario of residential development at the site during the RI, no human health risk has been identified for the LARC 60 site.

Ecological Risk

As presented in the Final RI Report, ecologically, much of the site provides little value to wildlife for foraging or nesting habitat. Therefore, the ecological risks to wildlife associated with the ongoing activities at the LARC 60 Maintenance Area are considered low.

4.1.2 Groundwater Contamination

Numerous VOCs, as well as two PAHs (naphthalene and 2-methylnaphthalene), have been detected in wells at the site over the 12-year monitoring period, but the exceedences of the MCLs over this period have been noted primarily in two wells: (1) MW-117, which is located downgradient of the former source area and (2) 6MW-3S, which is located further downgradient of the former source area.

Sodium permanganate injections impacted groundwater quality in the former source area and is evident by the continued decrease in VOC concentrations in MW-117, which is located directly downgradient from where the injections took place.

Decreasing trends downgradient of the former source area have also been noted primarily based on three reasons: (1) impact of the sodium permanganate injections upgradient have greatly decreased the concentrations of these VOCs at the source area, thereby reducing the mass of VOCs present that can continually leach into groundwater or be transported downgradient, (2) with the reduction of source mass concentrations, infiltration, which is high because of the sandy soils and shallow groundwater present, reduces concentrations throughout the site, and (3) albeit slow because of the relatively flat groundwater gradient, dispersion of contaminants will have somewhat of an effect on VOC concentrations.

4.2 RECOMMENDATIONS

No further action is recommended for the LARC 60 site based on the limited contamination detected in site groundwater and that no potential unacceptable human health or ecological risks were identified. The groundwater monitoring program clearly exhibits a decreasing trend in contaminant concentrations with no exceedences of the MCLs noted during the 2007 groundwater monitoring event, which focused on wells that previously had been impacted with VOCs above their respective MCLs.

It is also recommended that two additional groundwater monitoring events be conducted. These events will include groundwater sampling of the same six wells that were sampled in May 2007 and will focus on monitoring wells with previous exceedences of MCLs; however, every effort should be made to locate monitoring well 6MW-8 for its inclusion in this monitoring program because of its location downgradient of the VOC-impacted area. If this well cannot be located, then another downgradient monitoring well (6MW-11) will be sampled during this program.

If a site-related MCL exceedence occurs during either of the two sampling events, it is recommended that two additional rounds of groundwater monitoring, after completion of the original two events, be conducted to confirm that a site-related concern exists or that the exceedence was an anomalous event. If the monitoring events indicate that COC concentrations exceed MCLs and the concentrations are not simply an anomalous event, then a re-assessment of potential risks and remedies will be warranted.

Tables and Figures

RI REPORT ADDENDUM
LARC 60 SITE
FORT STORY, VIRGINIA

TABLE 3-1
MONITORING WELL GROUNDWATER RESULTS
LARC 60 MAINTENANCE AREA

Parameters	Well ID and Results (concentrations reported in ug/L)																	MCLs (1)	RBCs (2)
	6MW-1				6MW-2				6MW-3S					6MW-3D					
	1995	2000	2003	2004	1995	2000	2003	2004	1995	2000	2003	2004	2007	1995	2000	2003	2004		
Acetone	5 U	5 U	**4**	NT	5 U	NT	**5**	**270 D**	5 U	5 U	5 U	**17 J**	**3.8 B**	5 U	NT	5 U	**3.3**	---	550
Benzene	5 U	5 U	5 U	NT	5 U	NT	**0.1**	0.5 U	5 U	5 U	**0.6 J**	0.5 U	**0.2 JB**	5 U	NT	5 U	0.5 U	5	
Bromodichloromethane	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	100 (3)	
2-Butanone (MEK)	5 U	5 U	5 U	NT	5 U	NT	5 U	**21**	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	**2.5**	---	700
Carbon disulfide	5 U	5 U	5 U	NT	5 U	NT	5 U	**0.83**	5 U	5 U	5 U	0.5 U	**0.11 J**	5 U	NT	5 U	0.5 U	---	100
Chlorobenzene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	100	
Chloroform	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	100 (3)	
Chloromethane	5 U	5 U	5 U	NT	5 U	NT	5 U	**0.23 JB**	5 U	5 U	5 U	**0.84 J**	0.5 U	5 U	NT	5 U	**0.21 J**	---	19
Cyclohexane	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	**0.21 JB**	5 U	NT	5 U	0.5 U	---	---
Dibromochloromethane	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	100 (3)	
1,2-Dichlorobenzene	5 U	5 U	NT	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	600	
1,3-Dichlorobenzene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	75	
1,4-Dichlorobenzene	5 U	5 U	**0.3 J**	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	**0.3 JB**	0.5 U	---	0.47
Dichlorodifluoromethane	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	---	35
1,1-DCA	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	---	90
1,1-DCE	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	**1.3 J**	0.5 U	5 U	NT	5 U	0.5 U	7	
cis 1,2-DCE	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	**2 J**	**1 J**	**100**	**0.88**	5 U	NT	5 U	**0.33 J**	70	
trans 1,2-DCE	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	**0.87 J**	0.5 U	5 U	NT	5 U	0.5 U	100	
Ethylbenzene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	700	
Isopropyl benzene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	---	---
Methylcyclohexane	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	---	630
Methylene chloride	5 U	5 U	5 U	NT	5 U	NT	5 U	**0.52 B**	5 U	5 U	**0.3 J**	**3.3 JB**	0.5 U	5 U	NT	5 U	**0.47 JB**	5	
MIBK	5 U	**50**	5 U	NT	5 U	NT	5 U	2.5 U	5 U	**44**	13 U	2.5 U	2.5 U	5 U	NT	13 U	2.5 U	---	630
Styrene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	100	
Tetrachloroethene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	**0.4 J**	**62**	**0.33 J**	5 U	NT	5 U	0.5 U	5	
Toluene	5 U	5 U	**0.4 JB**	NT	5 U	NT	5 U	**0.29**	5 U	5 U	**0.8 J**	0.5 U	0.5 U	5 U	NT	**0.9 JB**	**0.42 J**	1,000	
1,2,4-Trichlorbenzene	5 U	5 U	**0.3 JB**	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	NT	5 U	0.5 U	70	
Trichloroethene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 u	**1.3 J**	**1 J**	**140**	**1.9**	5 U	NT	5 U	0.5 U	5	
Vinyl chloride	5 U	10 U	5 U	NT	10 U	NT	5 U	0.5 U	10 U	**3.1 J**	**1 J**	**9.7**	0.5 U	10 U	NT	5 U	**0.2 J**	2	
Xylenes	5 U	10 U	5 U	NT	5 U	NT	5 U	1 U	5 U	10 U	5 U	1 U	1 U	5 U	NT	5 U	1 U	10,000	

Notes:

(1) USEPA MCLs - EPA Maximum Contaminant Levels for Drinking Water

(2) RBCs - EPA Risk-based Concentrations for Tap Water (April 2007)

(3) MCL is for Total Trihalomethanes

NT - Not tested

Qualifiers:

J - Estimated concentration (result between MDL and PQL for organics)

B - Detected in associated method blank

Organics detected are bolded and italicized.

62 Concentrations above MCLs or EPA Region III RBCs for tap water (if no MCL exists) are bolded and shaded.

TABLE 3-1
MONITORING WELL GROUNDWATER RESULTS
LARC 60 MAINTENANCE AREA

	Well ID and Results (concentrations reported in ug/L)																				
	6MW-4				6MW-5S			6MW-5D		6MW-6		6MW-7			6MW-8		6MW-9				
Parameters	**1995**	**2000**	**2003**	**2004**	**2003**	**2004**	**2007**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2007**	**2003**	**2004**	**2003**	**2004**	**2007**	**MCLs (1)**	**RBCs (2)**
Acetone	5 U	5 U	5 U	NT	5 U	0.5 U	**4.5 B**	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	**2 JB**	5 U	0.5 U	**4 J**	0.5 U	**2.4 JB**	---	550
Benzene	5 U	5 U	5 U	NT	5 U	0.5 U	**0.15 JB**	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	**0.12 JB**	5 U	0.5 U	**0.2 J**	0.5 U	**0.24 JB**	5	
Bromodichloromethane	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	**0.83**	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	100 (3)	
2-Butanone (MEK)	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0. 5U	0. 5U	5 U	0. 5U	5 U	0. 5U	0. 5U	---	700
Carbon disulfide	5 U	5 U	5 U	NT	5 U	0.5 U	**0.11 J**	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	---	100
Chlorobenzene	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	**9**	0.5 U	0.5 U	100	
Chloroform	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	**3.3**	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	100 (3)	
Chloromethane	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	**0.18 J**	0.5 U	---	19
Cyclohexane	5 U	5 U	5 U	NT	5 U	0.5 U	**0.17 JB**	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	**0.17 JB**	5 U	0.5 U	5 U	0.5 U	**0.16 JB**	---	---
Dibromochloromethane	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	**0.12 J**	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	100 (3)	
1,2-Dichlorobenzene	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	**0.2 JB**	0.5 U	0.5 U	600	
1,3-Dichlorobenzene	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	**0.5 JB**	0.5 U	0.5 U	75	
1,4-Dichlorobenzene	5 U	5 U	**0.3 J**	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	**1 JB**	0.5 U	0.5 U	---	0.47
Dichlorodifluoromethane	5 U	5 U	5 U	NT	**0.3 J**	0.5 U	0.5 U	**0.3 J**	0.5 U	**0.3 J**	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	---	35
1,1-DCA	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	---	90
1,1-DCE	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	7	
cis 1,2-DCE	5 U	5 U	5 U	NT	5 U	**1.1**	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	**0.15 J**	5 U	0.5 U	0.5 U	70	
trans 1,2-DCE	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	100	
Ethylbenzene	5 U	5 U	5 U	NT	5 U	0. 5U	0. 5U	5 U	0.5 U	5 U	0. 5U	5 U	0. 5U	0. 5U	5 U	0. 5U	5 U	0.5 U	**0.11 J**	700	
Isopropyl benzene	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	---	---
Methylcyclohexane	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	---	630
Methylene chloride	5 U	5 U	5 U	NT	**0.25 J**	0.5 U	0.5 U	**0.3 J**	0.5 U	5 U	**0.2 J**	5 U	**0.15 J**	0.5 U	**0.3 J**	**0.14 J**	5 U	**0.44 JB**	0.5 U	5	
MIBK	5 U	**19**	13 U	NT	13 U	2.5 U	2.5 U	13 U	2.5 U	13 U	2.5 U	13 U	2.5 U	2.5 U	13 U	2.5 U	13 U	2.5 U	2.5 U	---	630
Styrene	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	100	
Tetrachloroethene	5 U	5 U	5 U	NT	5 U	**0.84**	0.5 U	5 U	0.5 U	5 U	0.5 U	**11**	**0.49 J**	**1.3**	5 U	0.5 U	5 U	0.5 U	0.5 U	5	
Toluene	5 U	5 U	**0.6 J**	NT	**1 JB**	0.5 U	0.5 U	**1 JB**	0.5 U	**1 JB**	0.5 U	**1 JB**	**0.1 J**	0.5 U	**0.7 J**	0.5 U	**0.5 JB**	**0.15 J**	0.5 U	1,000	
1,2,4-Trichlorbenzene	5 U	5 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	70	
Trichloroethene	5 U	5 U	5 U	NT	5 U	**1.7**	0.5 U	5 U	**0.10 JB**	5 U	0.5 U	5 U	0.5 U	0.5 U	**0.5 J**	**0.15 J**	5 U	0.5 U	0.5 U	5	
Vinyl chloride	10 U	10 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	2	
Xylenes	10 U	10 U	5 U	NT	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.5 U	10,000	

Notes:

(1) USEPA MCLs - EPA Maximum Contaminant Levels for Drinking Water

(2) RBCs - EPA Risk-based Concentrations for Tap Water (April 2007)

(3) MCL is for Total Trihalomethanes

NT - Not tested

Qualifiers:

J - Estimated concentration (result between MDL and PQL for organics)

B - Detected in associated method blank

Organics detected are bolded and italicized.

Concentrations above MCLs or EPA Region III RBCs for tap water (if no MCL exists) are bolded and shaded.

TABLE 3-1
MONITORING WELL GROUNDWATER RESULTS
LARC 60 MAINTENANCE AREA

Parameters	Well ID and Results (concentrations reported in ug/L)																MCLs (1)	RBCs (2)
	6MW-10	6MW-11		MW-115				MW-117					MW-118					
	2004	2004	2007	1995	2000	2003	2004	1995	2000	2003	2004	2007	1995	2000	2003	2004		
Acetone	**5.5**	0.5 U	**4.3 B**	5 U	5 U	5 U	**2.9**	5 U	5 U	**32**	0.5 U	**3.1 B**	5 U	5 U	5 U	**3**	---	550
Benzene	0.5 U	0.5 U	**0.18 JB**	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	**0.19 JB**	5 U	5 U	5 U	0.5 U	5	
Bromodichloromethane	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	100 (3)	
2-Butanone (MEK)	**4**	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	**1.5 J**	---	700
Carbon disulfide	**0.22 J**	0.5 U	**3.5**	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	**0.11 J**	5 U	5 U	5 U	0.5 U	---	100
Chlorobenzene	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	100	
Chloroform	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	100 (3)	
Chloromethane	**0.31 J**	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	**0.26 J**	---	19
Cyclohexane	0.5 U	0.5 U	**0.16 JB**	5 U	5 U	5 U	0.5 U	5 U	5 U	**15**	**2.7**	**0.51 B**	5 U	5 U	5 U	0.5 U	---	---
Dibromochloromethane	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	100 (3)	
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	5 U5	5 U	**0.15 J**	**0.16 J**	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	600	
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	75	
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	5 U	5 U	**0.3 J**	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	---	0.47
Dichlorodifluoromethane	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	---	35
1,1-DCA	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	**0.34 J**	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	---	90
1,1-DCE	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	7	
cis 1,2-DCE	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	**0.3 J**	**20**	**1,900**	**22**	**24**	**2**	5 U	5 U	5 U	0.5 U	70	
trans 1,2-DCE	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	**0.25 J**	0.5 U	5 U	5 U	5 U	0.5 U	100	
Ethylbenzene	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	**66**	**76**	**29**	**6.8**	**1.4**	5 U	5 U	5 U	0.5 U	700	
Isopropyl benzene	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	**12**	**6.2**	0.5 U	5 U	5 U	5 U	0.5 U	---	---
Methylcyclohexane	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	**26**	**16**	**8.1**	5 U	5 U	5 U	0.5 U	---	630
Methylene chloride	**0.45 J**	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	**0.16 J**	5 U	5 U	5 U	**0.43 JB**	5	
MIBK	2.5 U	0.5 U	0.5 U	5 U	13 U	13 U	2.5 U	5 U	250 U	13 U	**4**	2.5 U	5 U	5 U	13 U	2.5 U	---	630
Styrene	**0.12 J**	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	50 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	100	
Tetrachloroethene	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	**8.5**	50 U	**2 J**	**0.67 J**	0.5 U	5 U	5 U	5 U	0.5 U	5	
Toluene	**0.36 J**	**0.17 J**	0.5 U	5 U	5 U	**0.7 J**	0.5 U	**68**	**310**	**1 JB**	**0.15 J**	0.5 U	5 U	5 U	**1 JB**	**0.27 J**	1,000	
1,2,4-Trichlorbenzene	**0.15 JB**	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	50 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	70	
Trichloroethene	0.5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	**18**	50 U	**1 J**	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5	
Vinyl chloride	0.5 U	0.5 U	0.5 U	10 U	10 U	5 U	0.5 U	10 U	**8.6 J**	5 U	0.5 U	0.5 U	10 U	10 U	5 U	0.5 U	2	
Xylenes	0.5 U	0.5 U	0.5 U	5 U	10 U	5 U	0.5 U	**290**	**450**	**130**	**65**	**13**	5 U	10 U	5 U	0.5 U	10,000	

Notes:

(1) USEPA MCLs - EPA Maximum Contaminant Levels for Drinking Water

(2) RBCs - EPA Risk-based Concentrations for Tap Water (April 2007)

(3) MCL is for Total Trihalomethanes

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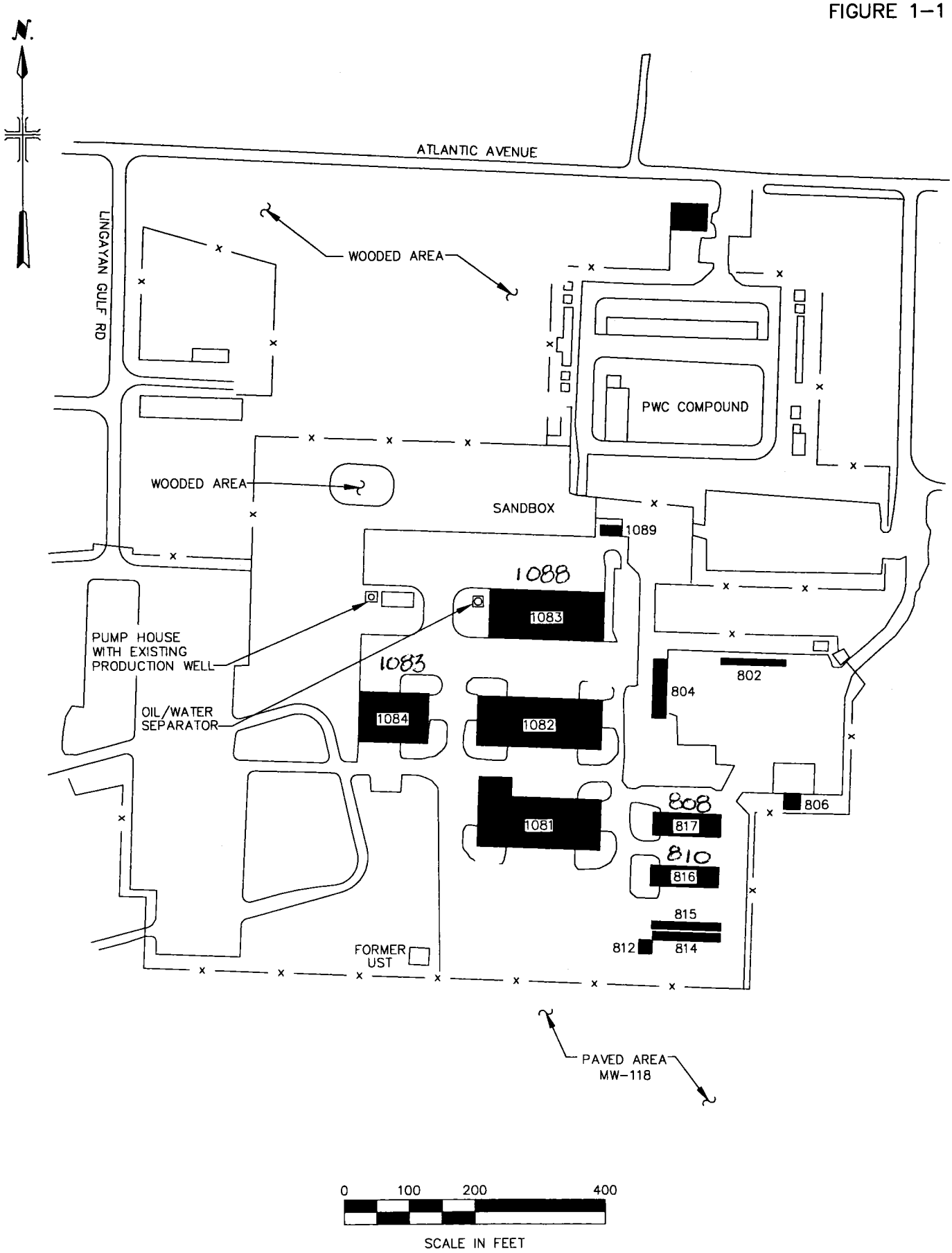
Organics detected are bolded and italicized.

Concentrations above MCLs or EPA Region III RBCs for tap water (if no MCL exists) are bolded and shaded.

FIGURE 1–1



XREFS: IMAGES: None

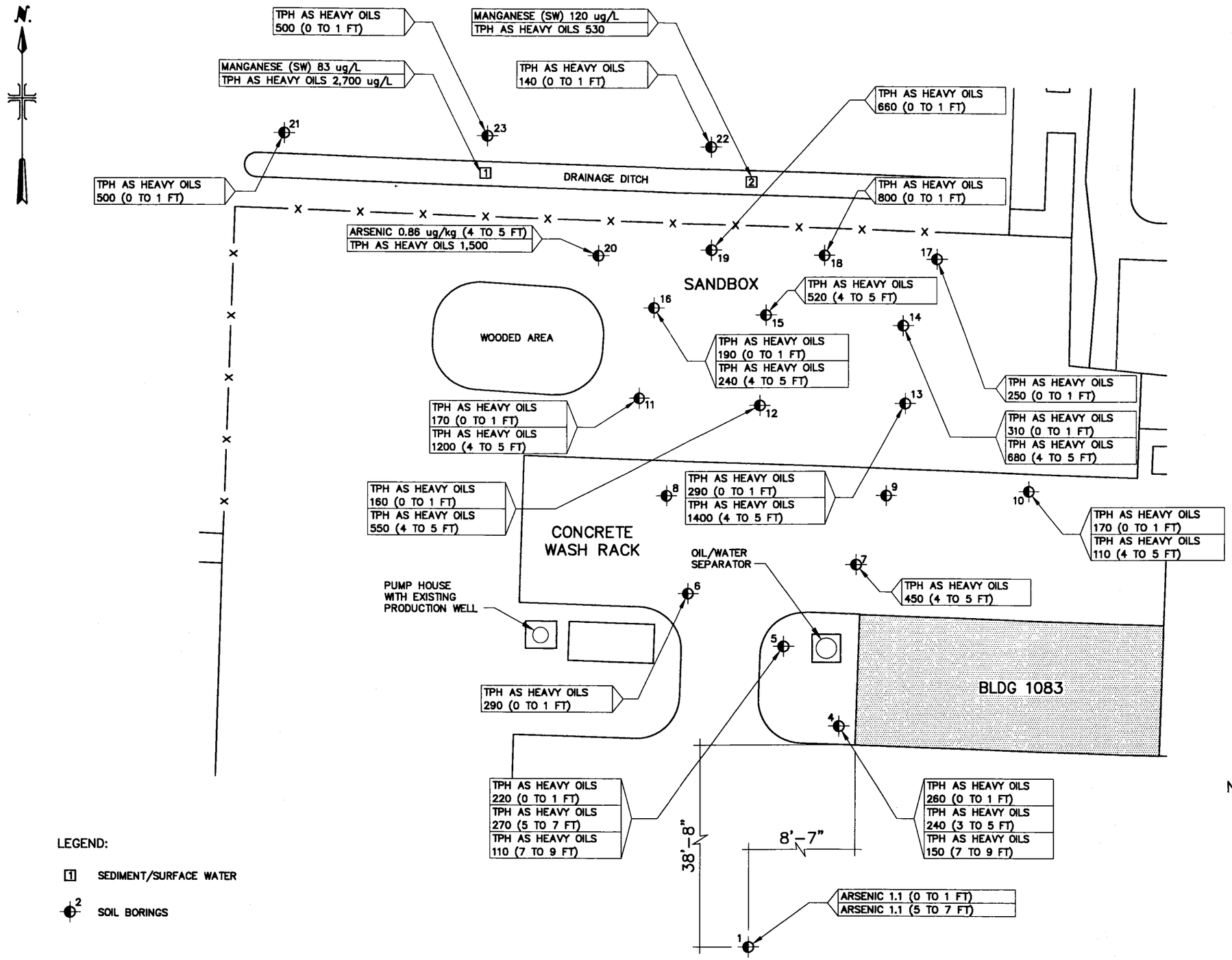
MALCOLM PIRNIE

FORT STORY, VIRGINIA
WORK PLAN ADDENDUM
LARC 60 SAMPLING LOCATIONS

MALCOLM PIRNIE, INC.

DEC 2004

FIGURE 1-2



MALCOLM PIRNIE

FORT STORY, VIRGINIA

FEASIBILITY STUDY

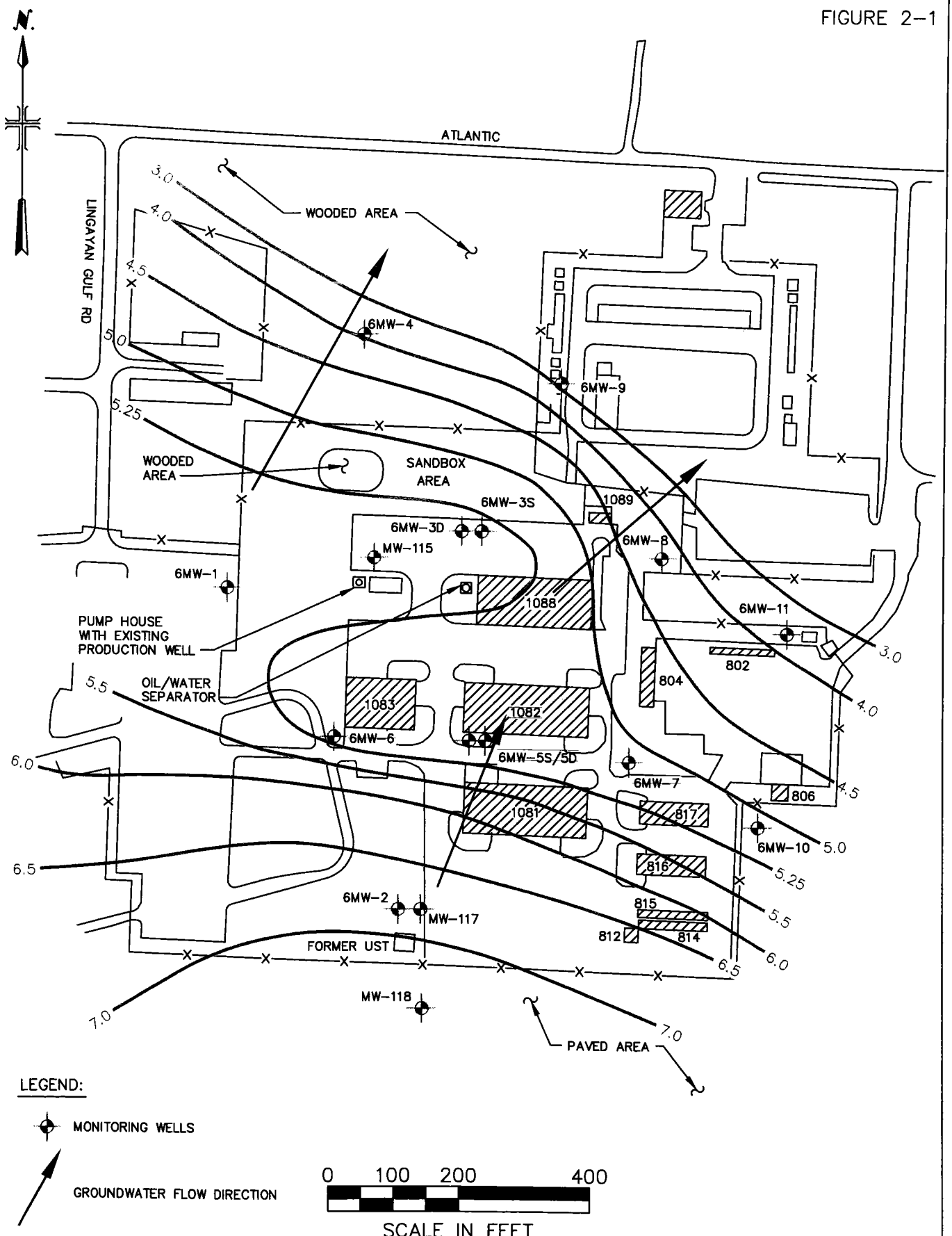
LARC 60 SOIL, SEDIMENT AND SURFACE WATER CONCENTRATIONS ABOVE EPA SCREENING CRITERIA

MALCOLM PIRNIE, INC.

DEC 2004

XREFS: ... .3ES: None

FIGURE 2-1



MALCOLM PIRNIE

FORT STORY, VIRGINIA
RI REPORT ADDENDUM
LARC 60 MAINTENANCE AREA
MONITORING WELL LOCATIONS

MALCOLM PIRNIE, INC.

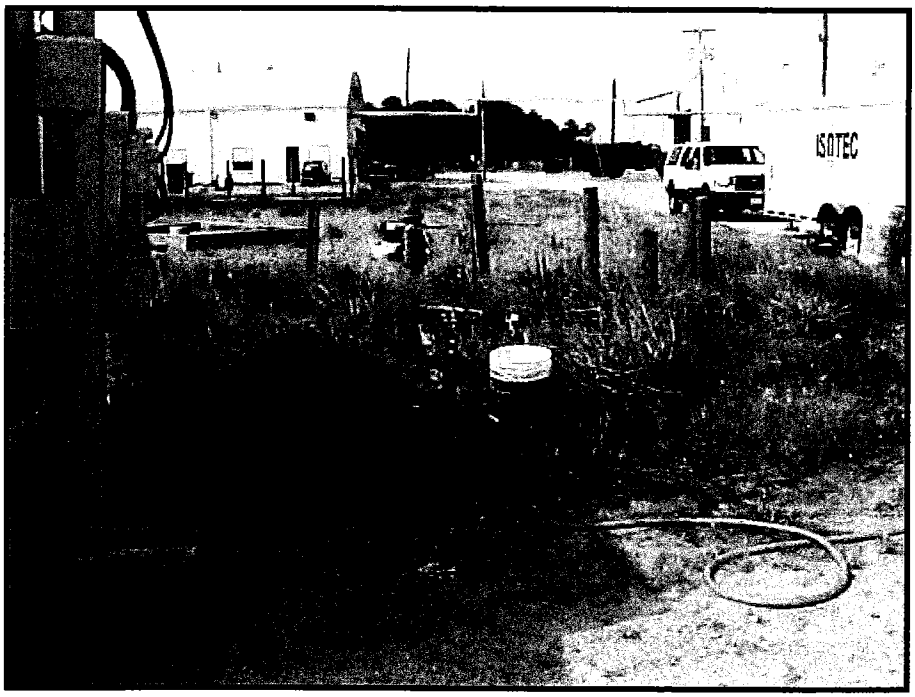
JULY 2007

XREFS: IM S:None
User: darnell Spec: PIRNIE STANDARD File: L:\0285 - US Army Corps of Engineers\945 - USACE LARC 60 RD\Cadd\FIG 2-1.DWG Scale: 1:1 Date: 07/24/2007 Time: 13:

Appendix A
Groundwater Pilot Scale Study Report

RI REPORT ADDENDUM
LARC 60 SITE
FORT STORY, VIRGINIA

GROUNDWATER PILOT STUDY REPORT
LARC 60 MAINTENANCE AREA



Installation Restoration Program
Fort Story, Virginia

U.S. Army Corps of Engineers
Baltimore District

and

U. S. Army Transportation Center
Fort Eustis, Virginia

November 2004

0285-900-300

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Groundwater Pilot Study Report

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1.0 INTRODUCTION

Malcolm Pirnie, Inc. was contracted by the U.S. Army Corps of Engineers (USACE), Baltimore District to conduct a Groundwater Pilot Study at the LARC 60 Maintenance Area site at Fort Story, Virginia under Contract DACA31-00-D-0043.

Benzene, ethylbenzene, toluene, and xylenes (BTEX), methyl isobutyl ketone (MIBK), 2-methylnaphthalene, naphthalene, tetrachloroethene (PCE), trichloroethene (TCE), cis 1,2-dichloroethene (cis 1,2-DCE), and vinyl chloride were detected in groundwater above EPA risk screening criteria (EPA RBCs and/or USEPA MCLs) in previous investigations conducted at the site. This pilot study will focus on treatment of the volatile organic compounds (VOCs) that have been detected at the site since they are the dominant contaminants of concern and further analysis will include the VOC list but not the naphthalenes previous detected.

The Pilot Study was conducted to evaluate the effectiveness of in-situ chemical oxidation using sodium permanganate ($NaMnO_4$) for reducing the concentration of the VOCs in the groundwater in the former underground storage tank (UST) area of the site. The treatment area is located just north of the former UST Area. This area was chosen due to its relatively high concentrations of VOCs, the variety of contaminants detected, and its designation as the probable, former source for site contamination.

This Pilot Study was conducted in accordance with the *Work Plan Addendum, Treatability Study, LARC 60 Maintenance Area, Fort Story,* dated May 2003 prepared by Malcolm Pirnie. The goals of the Pilot Study were as follows:

- Gather data to evaluate the effectiveness of chemical oxidation using a permanganate compound (sodium or potassium) as a remedial technology at the site.
- Gather data on contaminant rebound within the study area.
- Gather data to evaluate the effectiveness of chemical oxidant delivery via direct push methods.
- Provide initial steps toward remediating groundwater by reducing levels of VOCs in the test area.

- Quantify (via groundwater sampling) post-injection contaminant concentrations including any rebound effects.
- Quantify oxidant quantity for full-scale implementation of chemical oxidation.

2.0 IN SITU CHEMICAL OXIDATION TREATMENT CONCEPT

2.1 Selection of In Situ Chemical Oxidation using Permanganate

In-situ chemical oxidation (ISCO) involves the delivery and distribution of oxidants and other amendments into the subsurface to transform contaminants of concern into innocuous end products such as carbon dioxide (CO_2), water, and inorganic compounds. The primary advantages of ISCO technologies are their relatively low cost and short treatment times. Since the reaction is near immediate, treatment is far more rapid than biological techniques and can be faster than thermal or vapor recovery technologies. Also, the technology does not generate large volumes of waste material that must be disposed of and/or treated. ISCO generally provides the greatest benefit for localized source areas since it is capable of treating very high concentrations of contaminants rapidly. ISCO typically becomes prohibitively expensive over large treatment areas. The appropriateness of ISCO technology at a site depends on matching the oxidant and delivery system to the site contaminants and site conditions.

The most common oxidants utilized for ISCO are hydrogen peroxide (Fenton's reagent), potassium permanganate ($KMnO_4$), $NaMnO_4$, sodium persulfate, and ozone. Sodium permanganate was selected as the oxidant for the Pilot Study for several reasons:

- The other common oxidants are stronger than permanganate; therefore, they degrade more rapidly in the environment. Permanganate is more stable and is expected to remain active in the subsurface for weeks or months.

- There is a higher risk of excess pressure building in the subsurface by using other oxidants (e.g., Fenton's reagent) rather than permanganate.

- Permanganate is effective over a wider range of pH than

Fenton's reagent, which is most effective in acidic conditions

The main reason for the selection of $NaMnO_4$ was that unreacted $NAMnO_4$ in solution is relatively stable; it can diffuse into media with low permeabilities (e.g., silt, fine sands) over time, further enhancing oxidant delivery to hard-to-treat contaminated zones. Application of excess $NaMnO_4$ will allow for diffusion of permanganate into the matrix at the same time as contamination is diffusing out of the matrix (i.e., the reactants will be moving towards each other), speeding the treatment of contamination sorbed to the sand matrix.

2.2 Mechanics of ISCO using Sodium Permanganate

The oxidation of PCE (C_2Cl_4) and TCE (C_2Cl_3H) by $NaMnO_4$ is governed by the following reactions:

$$C_2Cl_4 + 2NaMnO_4 \rightarrow 2\ CO_2\ (aq) + 2NaO_2\ (s) + 2NaCl + Cl_2$$
$$C_2Cl_3H + 2NaMnO_4 \rightarrow 2\ CO_2\ (aq) + 2NaO_2\ (s) + 2NaCl + HCl$$

Chemical oxidation occurs at both the soil interface and free-phase interface (for NAPL situations) and within the interstitial pore spaces in the saturated subsurface (for dissolved compounds).

$NaMnO_4$ can oxidize a wide range of inorganic and organic compounds including:

- Chlorinated solvents
- Polynuclear aromatic hydrocarbons (PAHs)
- Phenolics (including creosols)
- Cyanides

Organic compounds that contain carbon-carbon double bonds (alkenes) are more readily oxidized by permanganate than compounds having single carbon-carbon bonds (alkanes). Thus, permanganate is more effective at remediating chlorinated organics consisting of TCE or PCE rather than 1,1,1-trichloroethane (TCA).

Environmental parameters that influence the rate and degree of $NaMnO_4$ oxidations include:

- pH (effective over a range of 3 to 12 with an optimum near 7)
- Temperature

- Contact (or reaction) time
- Oxidant concentration

2.3 Potential Limitations

Some potential limitations to the use of $NaMnO_4$ include the following:

- The potential to alter subsurface biogeochemistry and locally mobilize co-contaminants (e.g., redox sensitive metals such as Cr). This issue is not of concern at the site.
- The potential for manganate (Mn^{4+}) to be reduced to dissolved divalent manganese (Mn^{2+}) under low-pH or redox conditions.

Hazardous intermediate compounds may be formed due to incomplete oxidation caused by insufficient quantity of the oxidant, the presence of interfering compounds (natural organic-rich media, iron and/or manganese) that consume the reagents, and/or inadequate mixing or contact time between contaminant and oxidizing agent.

The by-products (HCl, Cl_2, etc.) released into the subsurface are generally not considered harmful in the environment. However, it is important to understand the fate of the primary by-products in order to minimize adverse impacts to the treatment zone.

- **CO_2 – carbon dioxide** will combine with water to form the carbonate series and lower the pH of the ground water.
- **Cl_2 – chlorine gas** is highly reactive, and it will readily combine with water to form hypochlorous acid (HOCl) and hypochlorite (OCl^-). These two compounds are also very strong oxidants.
- **HCl – hydrochloric acid** will be neutralized in carbonate environments.
- **MnO_2 – manganese dioxide** will precipitate out, coating the subsurface. The buildup of manganese dioxide, and other manganese oxides that may be formed, may reduce matrix permeability over time.

3.0 Pilot Study $NaMnO_4$ Injections

The Pilot Study consisted of two phases of $NaMnO_4$ solution application. The methods followed and results obtained for each phase are described in detail in the following sections.

3.1 Permanganate Injection Methodology

Malcolm Pirnie contracted with In-Situ Oxidative Technologies, Inc. (ISOTEC) to perform the $NaMnO_4$ injections throughout the course of the Pilot Study. $NaMnO_4$ exists as either a fine powder that is dissolved in water prior to injection or liquid concentrate available in higher concentrations. Liquid concentrate was used for both injection events at the site. NaMnO4 was selected over $KMnO_4$ because a slightly higher solubility rate in water and is slightly more stable. ISOTEC used a recirculating mixer assembly to mix the $NaMnO_4$ with potable water obtained from a nearby fire hydrant. Although the Pilot Work Plan Addendum specified use of 34 pounds of permanganate, this applied to the amount of potassium permanganate that would have been used. Since $NaMnO_4$ was used instead, an equivalent $NaMnO_4$ dose equal to110 pounds (lbs) per point was utilized. Therefore, 110 lbs (approximate 1% solution) of $NaMnO_4$ solution per point for both injections events was planned. However, due to the need for a higher dose for the second event (based on groundwater data after the 1st injection), approximately 550 lbs (8% solution) per point was injected during the 2nd event.

Photographs #1 through #3 (provided in **Appendix A**) present the permanganate batch preparation activities.

3.2 Injection Phases

1st Injection Event

The zone of treatment included an interval from 10 feet to 30 feet below land surface (bls) with the groundwater table present at a depth of approximately 10 feet bls. Five injection points located upgradient of monitoring well MW-117 (well with highest contaminant concentrations on-site) were utilized for delivery of the permanganate. Photograph #4 provided in **Appendix A** shows the geoprobe rig installing one of the injection points. Design of the injection pathway system consisted of temporary direct push injection points. Based on the thickness of the treatment zone (20 feet), each injection point was divided into five 4-foot intervals (10 to 14 feet bls, 14 to 18 feet bls, 18 to 22 feet bls, 22 to 26 feet bls, and 26 to 30 feet bls), with each interval receiving permanganate. The study consisted of the injection of approximately 85 gallons of reagents into each injection point interval. Oxidants were

delivered into the subsurface under a constant low-pressure (20 to 30 psi) system in an effort to distribute materials in a homogeneous fashion through the injection interval. A flow rate of 4 to 5 gallons per minute was utilized for delivery of the oxidant into the subsurface.

The location of the injection points and monitoring wells are presented on **Figure 1.**

Photographs #5 through #8 present the permanganate pumping.

During the 1st injection event of the Pilot Study, approximately 2,125 gallons of a 1% solution of $NaMnO_4$ were injected at five injection points (425 gallons per point) on August 12 and 13, 2003. The volume of 2,125 gallons of the 1% $NaMnO_4$ solution equals approximately 550 lbs of permanganate delivered to the subsurface during the 1st injection event.

2nd Injection Event

The zone of treatment for the 2nd injection event was the same as the zone described for the 1st injection event.

The 2nd injection event consisted of the injection of approximately 55 gallons of reagents into each injection point interval. During the 2nd injection event of the Pilot Study, approximately 1,375 gallons of an 8% solution of $NaMnO_4$ were injected at five injection points (275 gallons per point) on May 13, 2004. The volume of 1,375 gallons of the 8% $NaMnO_4$ solution equals approximately 2,750 lbs of permanganate delivered to the subsurface during the 2nd injection event.

4.0 Pilot Study Monitoring

4.1 1st Injection Event Monitoring

Groundwater samples were collected from several monitoring wells and injection points prior to the 1st injection event at the site. In addition, a saturated soil sample was collected to assess the extent of sorbed contamination in the treatment area. A summary of these monitoring events is presented below.

Pre-Injection Monitoring Well Sampling

A temporary monitoring well (TW-01) was constructed approximately 60 feet downgradient of the injection points to monitor impacts of the

permanganate injections over a period of time after completion of the injections. Prior to the injection events, this well was sampled and analyzed for iron, chlorides, total organic carbon (TOC), diesel and gasoline range petroleum-related organics (TPH DRO and TPH GRO), and VOCs. Iron (14.1 mg/L), chlorides (41 mg/L), and TOC (3.6 mg/L) were detected in TW-01 but no DRO, GRO, or VOCs were detected. The other downgradient well (MW-117) was sampled for iron, chlorides, and VOCs. Iron (4.6 mg/L), chloride (16 mg/L), and several VOCs (cis 1,2-DCE, PCE, TCE, and BTEX) were detected in the samples. Both wells were sampled on July 25, 2003.

Pursuant to the Draft Work Plan Addendum, dated May 2003, MW-117 was sampled only for iron and chlorides on July 25, 2003 and that the VOC data presented for MW-117 was collected in January 2003. A summary of the data for the pre-injection monitoring is presented in **Table 1** while the analytical results are included in **Appendix B**

Pre-Injection Saturated Soil Sampling

A saturated soil sample was collected on July 25, 2003 during the installation of TW-01 to assess the extent of any sorbed contamination in the treatment area. The soil sample was analyzed for TOC, TPH DRO, TPH GRO, and VOCs. No TOC, DRO, GRO, or VOCs were detected. The analytical results are included in **Appendix B**

Injection Point Monitoring

Prior to the 1st injection event, samples were collected from five injection points and analyzed for chloride, ferrous iron, and field parameters (i.e., temperature, specific conductivity, turbidity, pH, and dissolved oxygen (DO)). A summary of the analytical and field data collected from the five injection points is presented in **Table 2** while the analytical results are included in **Appendix B**

4.2 2nd Injection Monitoring

Injection Point Monitoring

Prior to the 2nd injection event, samples were collected from five injection points and analyzed for chloride, ferrous iron, and field parameters (i.e., temperature, specific conductivity, turbidity, pH, and dissolved oxygen (DO)). A summary of the analytical and field data collected from the five injection points is presented in **Table 3** while the analytical results are included in **Appendix B**

4.3 Rebound Monitoring

It was anticipated that after the injections ceased, $NaMnO_4$ concentrations would gradually diminish to below detection and VOC concentrations would gradually rise from below detection to detectable values. This rebound in VOC concentrations is due to reverse diffusion and cross flow that can transport VOCs into the treated zone from any untreated zones. Rebound monitoring was conducted to monitor the rate of $NaMnO_4$ dissipation, iron and chloride concentrations, and subsequent VOC concentration rebound.

A summary of the rebound monitoring data after each injection event is provided below.

Rebound Monitoring – 1st Injection Event

Rebound monitoring was started immediately after the end of the 1st injection event through the collection of water samples from MW-117 and TW-01 weekly (for 6 weeks) for iron, chloride, $NaMnO_4$ presence observation, and field parameters (i.e., temperature, specific conductivity, turbidity, pH, and DO). On the 6th weekly monitoring event, the wells and the saturated soils were also sampled and analyzed for DRO, TOC, and VOCs. Rebound groundwater monitoring results for the 1st injection event is summarized in **Table 4.** The direct push saturated soil sample indicated the presence of only 5 ppb of total xylenes. No other VOCs or DRO were detected.

Graphs depicting the rebound results for each of the parameters (chlorides and iron) monitored weekly are included in **Appendix C.** A summary of the rebound monitoring is presented below.

Chlorides

Although the graphs presented in **Appendix C** show a slight upward trending in chlorides in MW-117 and TW-01 during the weekly monitoring events, the overall change (30% for MW-117 and 8% for TW-01) is very small indicating that the 1st injection event produced minimal oxidation of VOCs.

Iron

The graph in **Appendix C** indicate an initial drop in iron concentrations within the treatment zone followed by a rebound trending toward approximate pre-injection levels at week #6 of the monitoring. Permanganate reactions typically mobilize naturally-occurring metals and metal contaminants including iron. This indicates that minimal mobilization occurred.

VOCs

A summary of the VOCs detected during the pre-injection monitoring event and the post-injection #1 event at MW-117 is presented in the following table.

VOC	Monitoring well MW-117 Data	
	Pre-injection	**Post-Inj #1**
Cis 1,2-DCE	22	190
Ethylbenzene	29	12
Isopropyl Benzene	5 U	7
PCE	2	5 U
TCE	1	5 U
Toluene	1	66
Xylenes	130	75
Notes: U – Not detected		

Results of comparison of the rebound monitoring to the pre-injection monitoring are varied. Although changes in concentrations were minimal, the concentrations of some VOCs decreased (ethylbenzene, PCE, TCE, and xylenes) while others increased (cis 1,2-DCE, isopropyl

benzene, and toluene).

Based on the results of the chloride, iron, and VOC analysis, it was determined that injection of a 1% solution of sodium permanganate was insufficient to oxidize the groundwater contaminants at the site. Therefore, as previously discussed the permanganate solution was increased to approximately 8% for the 2nd injection event.

Rebound Monitoring – 2nd Injection Event

Rebound monitoring was started immediately after the end of the 2nd injection event through the collection of water samples from MW-117 and TW-01 weekly (for 4 weeks) for iron, chloride, $NaMnO_4$ presence observation, and field parameters (i.e., temperature, specific conductivity, turbidity, pH, and DO). Weekly sampling was discontinued after the 4th week because permanganate was not observed in the well during that event. On the 5th weekly monitoring event, MW-117 was only sampled and analyzed for VOCs and the field parameters. Due to lack of sorbed-phase contamination in the treatment area as indicated in the rebound monitoring conducted after the 1st injection event, no additional saturated soils were collected after the 2nd injection event.

Rebound groundwater monitoring results for the2nd injection event are summarized in **Table 5.**

Graphs depicting the rebound results for each of the parameters (chlorides and iron) monitored weekly are included in **Appendix B**. A summary of the rebound monitoring is presented below.

Chlorides

The graph for MW-117 indicates an initial increase of chlorides to 205 mg/L followed by a decrease to 12 mg/l (concentration consistent with background) over a 3-week period. This indicates a rapid oxidation process followed by a slowdown due to the continued downgradient movement of the permanganate and the dissipation of the permanganate and its by-products in the area near MW-117.

The graph for TW-01 indicates an increase in chloride concentrations as permanganate reaches this area (TW-01 is approximately 60 feet downgradient of the injection points). The high concentrations indicate oxidation of VOCs in this area during the monitoring period. As noted by

the chloride concentration of 351 mg/L, oxidation appears high even after the 4th week after injection.

Iron

The graph in **Appendix C** indicate an initial drop in iron concentrations in MW-117 followed by a rebound trending toward approximate pre-injection levels at week #4 of the monitoring. Iron concentrations increased during the 4-week monitoring period in TW-01 but concentrations were similar to pre-injection levels. Permanganate reactions typically mobilize naturally-occurring metals and metal contaminants including iron. The post-injection #2 data indicates that minimal mobilization occurred.

VOCs

A summary of the VOCs detected during the pre-injection monitoring event (post-injection #1 data) and the post-injection #2 event at MW-117 is presented in the following table.

VOC	Monitoring well MW-117 Data	
	Post-Inj #1	**Post-Inj #2**
Cis 1,2-DCE	190	24
Trans 1,2-DCE	5 U	0.25
Cyclohexane	5 U	2.7
Ethylbenzene	12	6.8
Isopropyl Benzene	7	6.2
Methylcyclohexane	5 U	16
4-Methyl-2-pentanone	5 U	4
PCE	5 U	0.67
TCE	5 U	5 U
Toluene	66	0.15
Xylenes	75	65
Notes: U – Not detected		

Results of comparison of the rebound monitoring after the 2nd injection to the pre-injection monitoring (post-injection #1 data) are varied. Although changes in concentrations were minimal, the concentrations of some

VOCs decreased (cis 1,2-DCE, ethylbenzene, isopropyl benzene, toluene, and xylenes) while others increased (trans 1,2-DCE, several cyclohexanes, MIBK, and PCE).

4.4 Site-wide Groundwater Monitoring

In addition to the rebound monitoring conducted at MW-117 and TW-01 within the treatment zone of the pilot study, a site-wide groundwater monitoring event was conducted in June and July 2004 to assess the current VOC concentrations across the site. A copy of the analytical results is provided in **Appendix B**. The monitoring well samples were only analyzed for VOCs during this site-wide event which include the collection and analysis of samples from 15 monitoring wells.

As shown in **Table 6**, VOCs have been detected above the EPA risk-based concentrations (RBCs) for tap water in seven monitoring wells across the site with the highest concentrations detected in wells MW-117 which is located directly downgradient of the former leaking underground storage tank and 6MW-3S which is located further downgradient but has the highest concentrations. However, exceedences of the USEPA maximum contaminant levels (MCLs) for drinking water are limited to only three wells (MW-117, 6MW-3S, and 6MW-3D). The lateral extent of the VOC plume that has concentrations above the EPA RBCs for tap water is presented on **Figure 2.** This lateral extent data will be utilized in the remedial design to establish the potential treatment areas for the site.

5.0 Conclusions

Based on the results of the chloride, iron, and VOC analysis, it was determined that injection of an 8% solution of sodium permanganate was sufficient to oxidize the groundwater contaminants at the site. However, a higher concentration of permanganate may be necessary to destroy the residual VOCs at the site due to their relatively low concentration (less than 100 ug/L).

GROUNDWATER PILOT STUDY
LARC 60 SITE
FORT STORY, VIRGINIA

TABLE 1

PRE-INJECTION #1 RESULTS - MONITORING WELLS

LARC 60 SITE, FORT STORY, VA

Parameter	MONITORING WELL	
	MW-117	TW-01
ANALYTICAL LABORATORY RESULTS		
Chloride (mg/L)	16	41
Ferrous Iron (mg/L)	4.6	14.1
TPH DRO and GRO	NT	ND
COCs (µg/L)		
cis 1,2-DCE	22	ND
Ethylbenzene	29	ND
PCE	2	ND
Toluene	1	ND
TCE	1	ND
Xylenes	130	ND
FIELD PARAMETER RESULTS		
pH	4.79	4.74
Specific Conductivity (µS/cm)	188	184
Turbidity (NTUs)	16	288
Dissolved Oxygen (ppm)	1.27	0
Temperature (°C)	22.3	20.3

Notes:

NT - Not Tested

Unit Definitions:

mg/L = milligrams per liter

µS/cm = micro Siemens per centimeter

NTUs = Nephelometric Turbidity Units

ppm = parts per million

°C = degrees Centigrade

TABLE 2

PRE-INJECTION #1 RESULTS - INJECTION POINTS

LARC 60 SITE, FORT STORY, VA

Parameter	INJECTION POINT				
	Point #1	Point #2	Point #3	Point #4	Point #5
ANALYTICAL LABORATORY RESULTS					
Chloride (mg/L)	8.18	8.48	8.28	9.43	7.17
Ferrous Iron (mg/L)	3.92	13.4	2.04	1.88	1.72
FIELD PARAMETER RESULTS					
pH	5.78	5.72	5.69	6.12	5.23
Specific Conductivity (µS/cm)	291	182	150	166	177
Turbidity (NTUs)	> 999	> 999	503	525	457
Dissolved Oxygen (ppm)	1.19	1.02	1.83	1.38	1.32
Temperature (°C)	25.8	25.0	24.7	25.2	24.7

Notes:

Unit Definitions: mg/L = milligrams per liter
µS/cm = micro Siemens per centerimeter
NTUs = Nephelometric Turbidity Units
ppm = parts per million
°C = degrees Centigrade

TABLE 3

PRE-INJECTION #2 RESULTS - INJECTION POINTS

LARC 60 SITE, FORT STORY, VA

Parameter	INJECTION POINT				
	Point #1	Point #2	Point #3	Point #4	Point #5
ANALYTICAL LABORATORY RESULTS					
Chloride (mg/L)	12	9	14	16	19
Ferrous Iron (mg/L)	1.84	1.05	1.1	13.77	13.25
FIELD PARAMETER RESULTS					
pH	5.70	6.05	5.60	4.71	5.01
Specific Conductivity (µS/cm)	192	175	189	183	223
Turbidity (NTUs)	185	89	204	151	585
Dissolved Oxygen (ppm)	0.62	1.37	1.55	< 1	9.34
Temperature (°C)	19.2	19.7	19.4	19.6	19.3

Notes:

Unit Definitions: mg/L = milligrams per liter
µS/cm = micro Siemens per centerimeter
NTUs = Nephelometric Turbidity Units
ppm = parts per million
°C = degrees Centigrade

TABLE 4
REBOUND MONITORING - POST INJECTION #1
LARC 60 SITE, FORT STORY, VA

Parameter	MONITORING WELL AND DATE SAMPLED (IN 2003)											
	MW-117						TW-01					
	22-Aug	29-Aug	5-Sep	16-Sep	23-Sep	17-Oct	22-Aug	29-Aug	5-Sep	16-Sep	23-Sep	17-Oct
ANALYTICAL LABORATORY RESULTS												
Chloride (mg/L)	8.99	11.4	11	9.84	9.46	11.7	34.2	35	34.2	35.7	34.7	37
Ferrous Iron (mg/L)	6.95	7.94	6.6	1.9	3.8	8.25	8.29	8.16	2.38	2.48	5.45	6.65
TOC (mg/L)	NT	NT	NT	NT	NT	27.91	NT	NT	NT	NT	NT	25.43
TPH DRO (mg/L)	NT	NT	NT	NT	NT	2.5	NT	NT	NT	NT	NT	2.5 U
COCs (µg/L)												
cis 1,2-DCE	NT	NT	NT	NT	NT	190	NT	NT	NT	NT	NT	5 U
Ethylbenzene	NT	NT	NT	NT	NT	12	NT	NT	NT	NT	NT	5 U
Isopropyl Benzene	NT	NT	NT	NT	NT	7	NT	NT	NT	NT	NT	5 U
Toluene	NT	NT	NT	NT	NT	66	NT	NT	NT	NT	NT	0.8 J
Xylenes	NT	NT	NT	NT	NT	75	NT	NT	NT	NT	NT	5 U
FIELD PARAMETER RESULTS												
pH	6.55	6.84	6.88	6.22	5.98	6.12	6.79	6.95	6.85	6.41	6.40	6.32
Specific Conductivity (µS/cm)	170	206	201	199	202	199	173	166	164	166	163	165
Turbidity (NTUs)	---	---	---	25	22	21	---	---	---	5	37	32
Dissolved Oxygen (ppm)	1.46	1.39	1.26	1.27	1.27	1.28	1.42	1.37	1.46	1.41	1.38	1.42
Temperature (°C)	24.6	24.9	22.1	23.7	23.6	22.4	23.3	23.8	22.0	21.3	23.0	21.7

Notes:

NT - Not Tested

Unit Definitions:

mg/L = milligrams per liter

µS/cm = micro Siemens per centimeter

NTUs = Nephelometric Turbidity Units

ppm = parts per million

°C = degrees Centigrade

TABLE 5
REBOUND MONITORING - POST INJECTION #2
LARC 60 SITE, FORT STORY, VA

Parameter	MONITORING WELL AND DATE SAMPLED (IN 2004)									
	MW-117					TW-01				
	28-May	7-Jun	14-Jun	18-Jun	17-Jul	28-May	7-Jun	14-Jun	18-Jun	17-Jul
ANALYTICAL LABORATORY RESULTS										
Chloride (mg/L)	205	124	107	12	NT	116	396	45	351	NT
Ferrous Iron (mg/L)	6.5	5.7	4.8	5.9	NT	4.7	6.1	6.4	7.3	NT
TOC (mg/L)	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
TPH DRO (mg/L)	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
COCs (µg/L)										
Cyclohexane	NT	NT	NT	NT	2.7	NT	NT	NT	NT	NT
cis 1,2-DCE	NT	NT	NT	NT	24	NT	NT	NT	NT	NT
trans 1,2-DCE	NT	NT	NT	NT	0.25 J	NT	NT	NT	NT	NT
Ethylbenzene	NT	NT	NT	NT	6.8	NT	NT	NT	NT	NT
Isopropyl Benzene	NT	NT	NT	NT	6.2	NT	NT	NT	NT	NT
Methylcyclohexane	NT	NT	NT	NT	16	NT	NT	NT	NT	NT
4-Methyl-2-pentanone	NT	NT	NT	NT	4	NT	NT	NT	NT	NT
PCE	NT	NT	NT	NT	0.67	NT	NT	NT	NT	NT
Toluene	NT	NT	NT	NT	0.15 J	NT	NT	NT	NT	NT
Xylenes	NT	NT	NT	NT	65	NT	NT	NT	NT	NT
FIELD PARAMETER RESULTS										
pH	6.47	6.53	6.38	6.50	6.09	6.14	6.03	5.85	5.98	NT
Specific Conductivity (µS/cm)	142	149	147	155	159	165	173	172	179	NT
Turbidity (NTUs)	< 30	< 30	164	---	5	410	290	235	---	NT
Dissolved Oxygen (ppm)	1.44	1.92	---	---	10.77	2.25	2.98	---	---	NT
Temperature (°C)	19.9	21.5	21.2	23.4	21.3	20.7	19.4	20.5	22.2	NT

Notes:

NT - Not Tested

Unit Definitions:

mg/L = milligrams per liter

µS/cm = micro Siemens per centimeter

NTUs = Nephelometric Turbidity Units

ppm = parts per million

°C = degrees Centigrade

TABLE 6
MONITORING WELL GROUNDWATER RESULTS
LARC 60 MAINTENANCE AREA

	Well ID and Results (concentrations reported in ug/L)																
	6MW-4				6MW-5S		6MW-5D		6MW-6		6MW-7		6MW-8		6MW-9		
Parameters	**1995**	**2000**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	**RBCs (1)**
Acetone	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	**4 J**	0.5 U	550
Benzene	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	**0.2 J**	0.5 U	0.34
Bromodichloromethane	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	**0.83**	5 U	0.5 U	5 U	0.5 U	0.17
2-Butanone (MEK)	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0. 5U	5 U	0. 5U	5 U	0. 5U	700
Carbon disulfide	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	100
Chlorobenzene	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	**9**	0.5 U	9
Chloroform	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	**3.3**	5 U	0.5 U	5 U	0.5 U	0.15
Chloromethane	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	**0.18 J**	19
Cyclohexane	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	---
Dibromochloromethane	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	**0.12 J**	5 U	0.5 U	5 U	0.5 U	0.13
1,2-Dichlorobenzene	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	**0.2 JB**	0.5 U	27
1,3-Dichlorobenzene	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	**0.5 JB**	0.5 U	1.8
1,4-Dichlorobenzene	5 U	5 U	**0.3 J**	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	**1 JB**	0.5 U	0.47
Dichlorodifluoromethane	5 U	5 U	5 U	NT	**0.3 J**	0.5 U	**0.3 J**	0.5 U	**0.3 J**	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	35
1,1-DCA	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	90
1,1-DCE	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	35
cis 1,2-DCE	5 U	5 U	5 U	NT	5 U	**1.1**	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	**0.15 J**	5 U	0.5 U	---
trans 1,2-DCE	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	11
Ethylbenzene	5 U	5 U	5 U	NT	5 U	0. 5U	5 U	0.5 U	5 U	0. 5U	5 U	0. 5U	5 U	0. 5U	5 U	0.5 U	130
Isopropyl benzene	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	---
Methylcyclohexane	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	630
Methylene chloride	5 U	5 U	5 U	NT	**0.25 J**	0.5 U	**0.3 J**	0.5 U	5 U	**0.2 J**	5 U	**0.15 J**	**0.3 J**	**0.14 J**	5 U	**0.44 JB**	4.1
MIBK	5 U	**19**	13 U	NT	13 U	2.5 U	13 U	2.5 U	13 U	2.5 U	13 U	2.5 U	13 U	2.5 U	13 U	2.5 U	630
Styrene	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	160
Tetrachloroethene	5 U	5 U	5 U	NT	5 U	**0.84**	5 U	0.5 U	5 U	0.5 U	**11**	**0.49 J**	5 U	0.5 U	5 U	0.5 U	0.1
Toluene	5 U	5 U	**0.6 J**	NT	**1 JB**	0.5 U	**1 JB**	0.5 U	**1 JB**	0.5 U	**1 JB**	**0.1 J**	**0.7 J**	0.5 U	**0.5 JB**	**0.15 J**	230
1,2,4-Trichlorbenzene	5 U	5 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.72
Trichloroethene	5 U	5 U	5 U	NT	5 U	**1.7**	5 U	**0.10 JB**	5 U	0.5 U	5 U	0.5 U	**0.5 J**	**0.15 J**	5 U	0.5 U	0.026
Vinyl chloride	10 U	10 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	0.015
Xylenes	10 U	10 U	5 U	NT	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	5 U	0.5 U	21

Notes:

(1) EPA Region III Risk-based Concentration Criteria for Tap Water (values adjusted for a hazard index of 0.10)

NT - Not tested

J - Estimated concentration (result between MDL and PQL for organics)

B - Detected in associated method blank

Organics detected are bolded and italicized.

Concentrations above EPA Region III RBCs for tap water are bolded and shaded.

TABLE 6
MONITORING WELL GROUNDWATER RESULTS
LARC 60 MAINTENANCE AREA

Parameters	Well ID and Results (concentrations reported in ug/L)																RBCs (1)
	6MW-1				6MW-2				6MW-3S				6MW-3D				
	1995	2000	2003	2004	1995	2000	2003	2004	1995	2000	2003	2004	1995	2000	2003	2004	
Acetone	5 U	5 U	**4**	NT	5 U	NT	**5**	**270 D**	5 U	5 U	5 U	**17 J**	5 U	NT	5 U	**3.3**	550
Benzene	5 U	5 U	5 U	NT	5 U	NT	**0.1**	0.5 U	5 U	5 U	**0.6 J**	0.5 U	5 U	NT	5 U	0.5 U	0.34
Bromodichloromethane	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	0.17
2-Butanone (MEK)	5 U	5 U	5 U	NT	5 U	NT	5 U	**21**	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	**2.5**	700
Carbon disulfide	5 U	5 U	5 U	NT	5 U	NT	5 U	**0.83**	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	100
Chlorobenzene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	9
Chloroform	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	0.15
Chloromethane	5 U	5 U	5 U	NT	5 U	NT	5 U	**0.23 JB**	5 U	5 U	5 U	**0.84 J**	5 U	NT	5 U	**0.21 J**	19
Cyclohexane	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	---
Dibromochloromethane	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	0.13
1,2-Dichlorobenzene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	27
1,3-Dichlorobenzene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	1.8
1,4-Dichlorobenzene	5 U	5 U	**0.3 J**	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	**0.3 JB**	0.5 U	0.47
Dichlorodifluoromethane	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	35
1,1-DCA	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	90
1,1-DCE	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	**1.3 J**	5 U	NT	5 U	0.5 U	35
cis 1,2-DCE	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	**2 J**	**1 J**	**100**	5 U	NT	5 U	**0.33 J**	---
trans 1,2-DCE	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	**0.87 J**	5 U	NT	5 U	0.5 U	11
Ethylbenzene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	130
Isopropyl benzene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	---
Methylcyclohexane	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	630
Methylene chloride	5 U	5 U	5 U	NT	5 U	NT	5 U	**0.52 B**	5 U	5 U	**0.3 J**	**3.3 JB**	5 U	NT	5 U	**0.47 JB**	4.1
MIBK	5 U	**50**	5 U	NT	5 U	NT	5 U	2.5 U	5 U	**44**	13 U	2.5 U	5 U	NT	13 U	2.5 U	630
Styrene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	160
Tetrachloroethene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 U	5 U	**0.4 J**	**62**	5 U	NT	5 U	0.5 U	0.1
Toluene	5 U	5 U	**0.4 JB**	NT	5 U	NT	5 U	**0.29**	5 U	5 U	**0.8 J**	0.5 U	5 U	NT	**0.9 JB**	**0.42 J**	230
1,2,4-Trichlorbenzene	5 U	5 U	**0.3 JB**	NT	5 U	NT	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	NT	5 U	0.5 U	0.72
Trichloroethene	5 U	5 U	5 U	NT	5 U	NT	5 U	0.5 U	5 u	**1.3 J**	**1 J**	**140**	5 U	NT	5 U	0.5 U	0.026
Vinyl chloride	5 U	10 U	10 U	NT	10 U	NT	10 U	0.5 U	10 U	**3.1 J**	**1 J**	**9.7**	10 U	NT	5 U	**0.2 J**	0.015
Xylenes	5 U	10 U	10 U	NT	5 U	NT	5 U	1 U	5 U	10 U	5 U	1 U	5 U	NT	5 U	1 U	21

Notes:

(1) EPA Region III Risk-based Concentration Criteria for Tap Water (values adjusted for a hazard index of 0.10)

NT - Not tested

J - Estimated concentration (result between MDL and PQL for organics)

B - Detected in associated method blank

Organics detected are bolded and italicized.

Concentrations above EPA Region III RBCs for tap water are bolded and shaded.

TABLE 6
MONITORING WELL GROUNDWATER RESULTS
LARC 60 MAINTENANCE AREA

	Well ID and Results (concentrations reported in ug/L)														
	6MW-10	6MW-11	MW-115				MW-117				MW-118				
Parameters	**2004**	**2004**	**1995**	**2000**	**2003**	**2004**	**1995**	**2000**	**2003**	**2004**	**1995**	**2000**	**2003**	**2004**	**RBCs (1)**
Acetone	**5.5**	0.5 U	5 U	5 U	5 U	**2.9**	5 U	5 U	**32**	0.5 U	5 U	5 U	5 U	**3**	550
Benzene	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.34
Bromodichloromethane	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.17
2-Butanone (MEK)	**4**	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	**1.5 J**	700
Carbon disulfide	**0.22 J**	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	100
Chlorobenzene	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	9
Chloroform	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.15
Chloromethane	**0.31 J**	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	**0.26 J**	19
Cyclohexane	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	**15**	**2.7**	5 U	5 U	5 U	0.5 U	---
Dibromochloromethane	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.13
1,2-Dichlorobenzene	0.5 U	0.5 U	5 U5	5 U	**0.15 J**	**0.16 J**	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	27
1,3-Dichlorobenzene	0.5 U	0.5 U	5 U5	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	1.8
1,4-Dichlorobenzene	0.5 U	0.5 U	5 U5	5 U	**0.3 J**	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.47
Dichlorodifluoromethane	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	35
1,1-DCA	0.5 U	0.5 U	5 U	5 U	5 U	**0.34 J**	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	90
1,1-DCE	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	35
cis 1,2-DCE	0.5 U	0.5 U	5 U	5 U	5 U	**0.3 J**	**20**	**1,900**	**22**	**24**	5 U	5 U	5 U	0.5 U	---
trans 1,2-DCE	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	**0.25 J**	5 U	5 U	5 U	0.5 U	11
Ethylbenzene	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	**66**	**76**	**29**	**6.8**	5 U	5 U	5 U	0.5 U	130
Isopropyl benzene	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	**12**	**6.2**	5 U	5 U	5 U	0.5 U	---
Methylcyclohexane	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	**26**	**16**	5 U	5 U	5 U	0.5 U	630
Methylene chloride	**0.45 J**	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	5 U	5 U	5 U	**0.43 JB**	4.1
MIBK	2.5 U	0.5 U	5 U	13 U	13 U	2.5 U	5 U	250 U	13 U	**4**	5 U	5 U	13 U	2.5 U	630
Styrene	**0.12 J**	0.5 U	5 U	5 U	5 U	0.5 U	5 U	50 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	160
Tetrachloroethene	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	**8.5**	50 U	**2 J**	**0.67 J**	5 U	5 U	5 U	0.5 U	0.1
Toluene	**0.36 J**	**0.17 J**	5 U	5 U	**0.7 J**	0.5 U	**68**	**310**	**1 JB**	**0.15 J**	5 U	5 U	**1 JB**	**0.27 J**	230
1,2,4-Trichlorbenzene	**0.15 JB**	0.5 U	5 U	5 U	5 U	0.5 U	5 U	50 U	5 U	0.5 U	5 U	5 U	5 U	0.5 U	0.72
Trichloroethene	0.5 U	0.5 U	5 U	5 U	5 U	0.5 U	**18**	50 U	**1 J**	0.5 U	5 U	5 U	5 U	0.5 U	0.026
Vinyl chloride	0.5 U	0.5 U	10 U	10 U	5 U	0.5 U	10 U	**8.6 J**	5 U	0.5 U	10 U	10 U	5 U	0.5 U	0.015
Xylenes	0.5 U	0.5 U	5 U	10 U	5 U	0.5 U	**290**	**450**	**130**	**65**	5 U	10 U	5 U	0.5 U	21

Notes:

(1) EPA Region III Risk-based Concentration Criteria for Tap Water (values adjusted for a hazard index of 0.10)

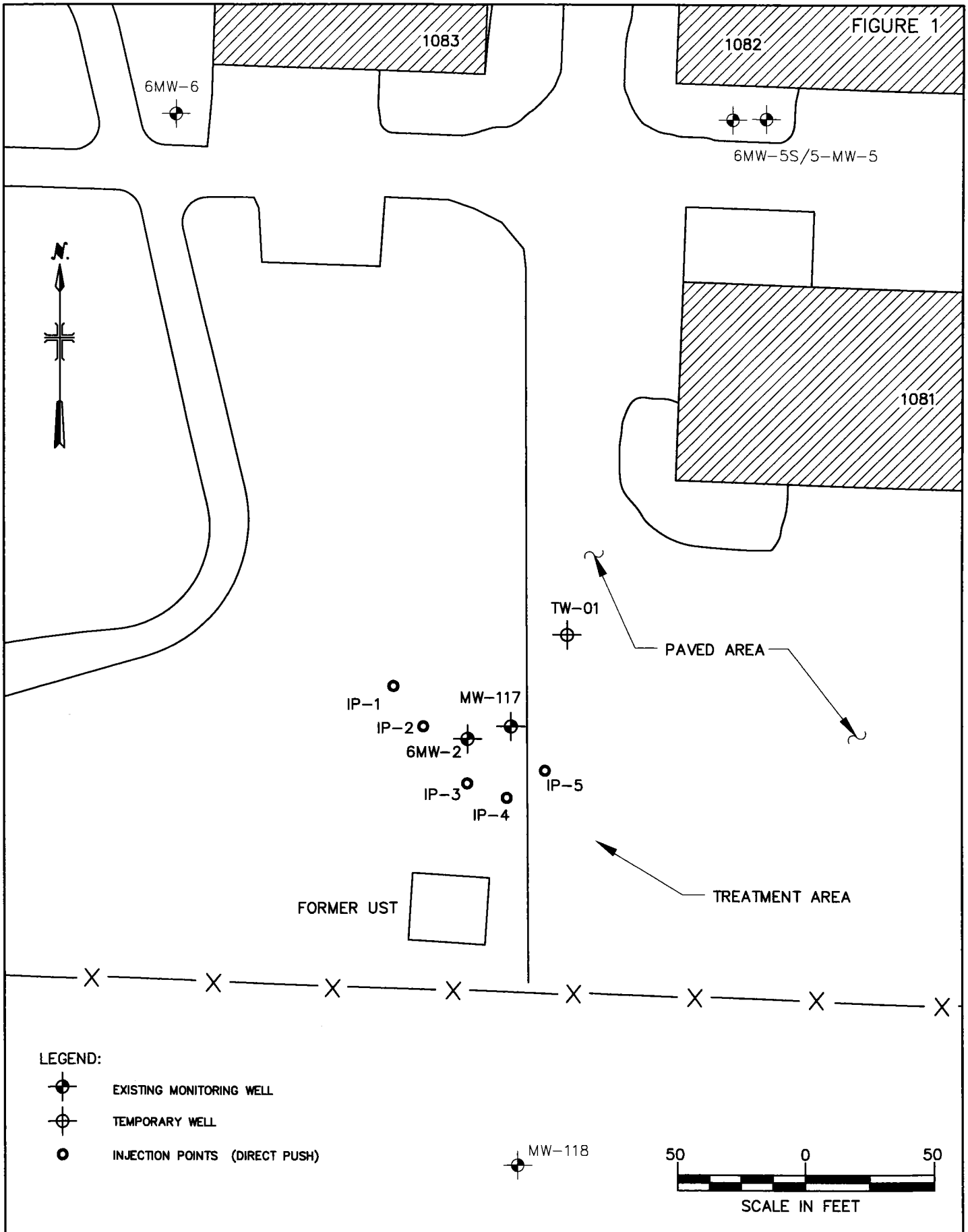
NT - Not tested

J - Estimated concentration (result between MDL and PQL for organics)

B - Detected in associated method blank

Organics detected are bolded and italicized.

Concentrations above EPA Region III RBCs for tap water are bolded and shaded.



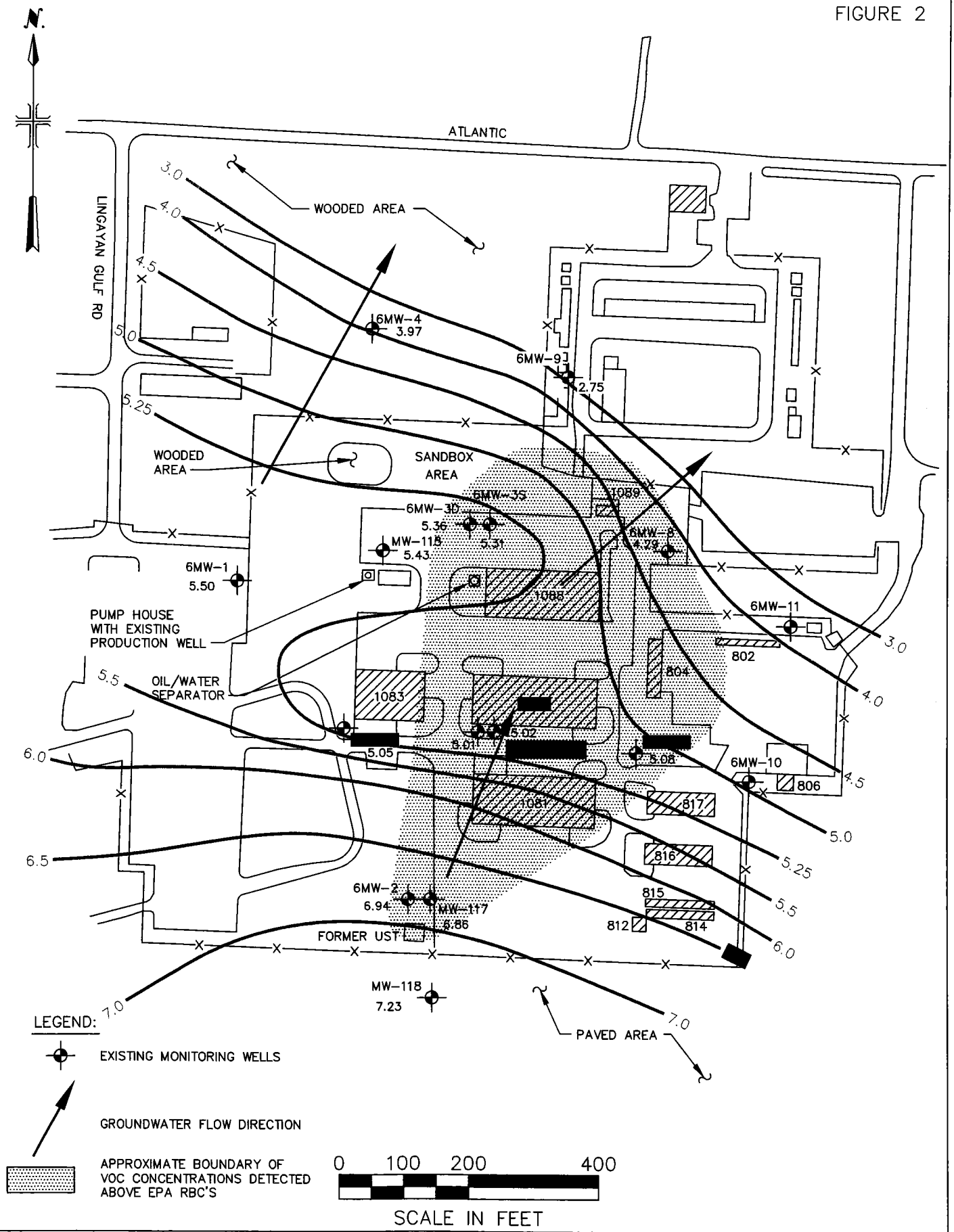
MALCOLM PIRNIE

FORT STORY, VIRGINIA
GROUNDWATER PILOT STUDY REPORT
TREATMENT AREA

MALCOLM PIRNIE, INC.

DEC 2004

FIGURE 2



MALCOLM PIRNIE

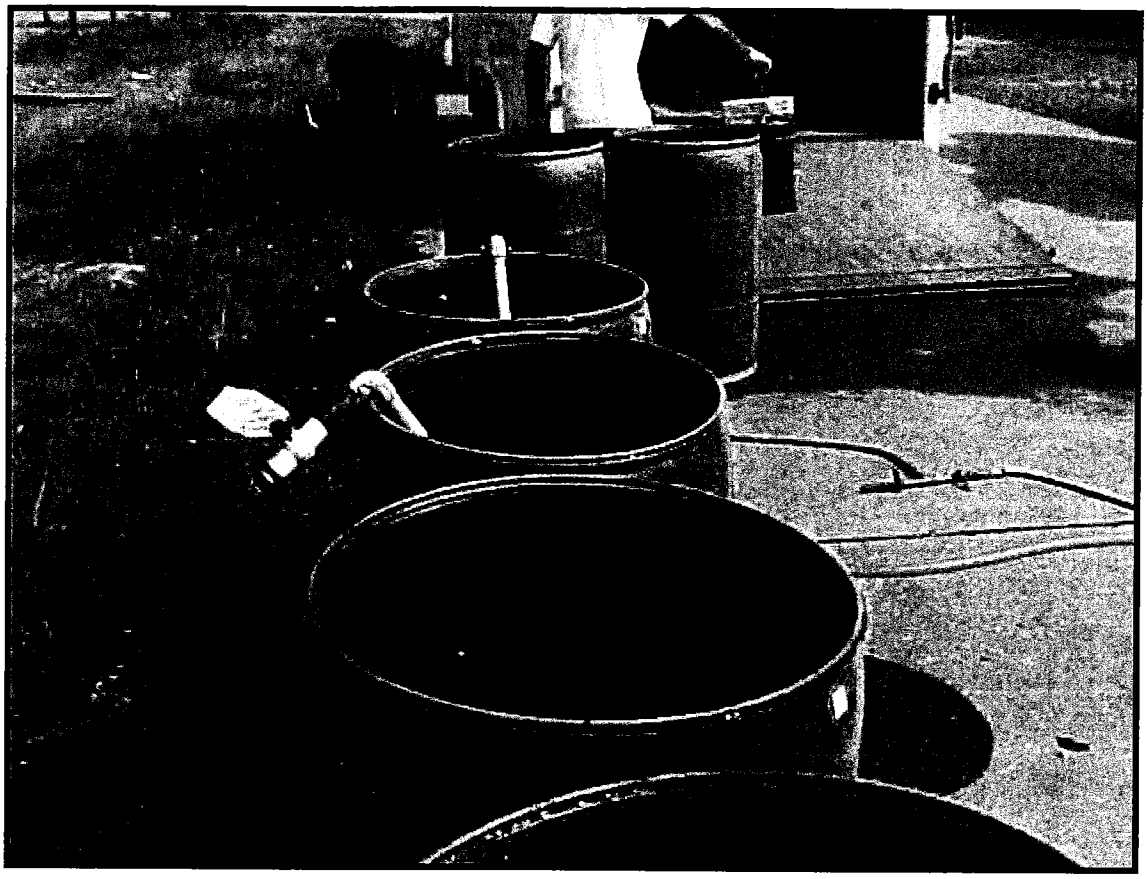
FORT STORY, VIRGINIA
GROUNDWATER PILOT STUDY REPORT
VOC PLUME MAP

MALCOLM PIRNIE, INC.

DEC 2004

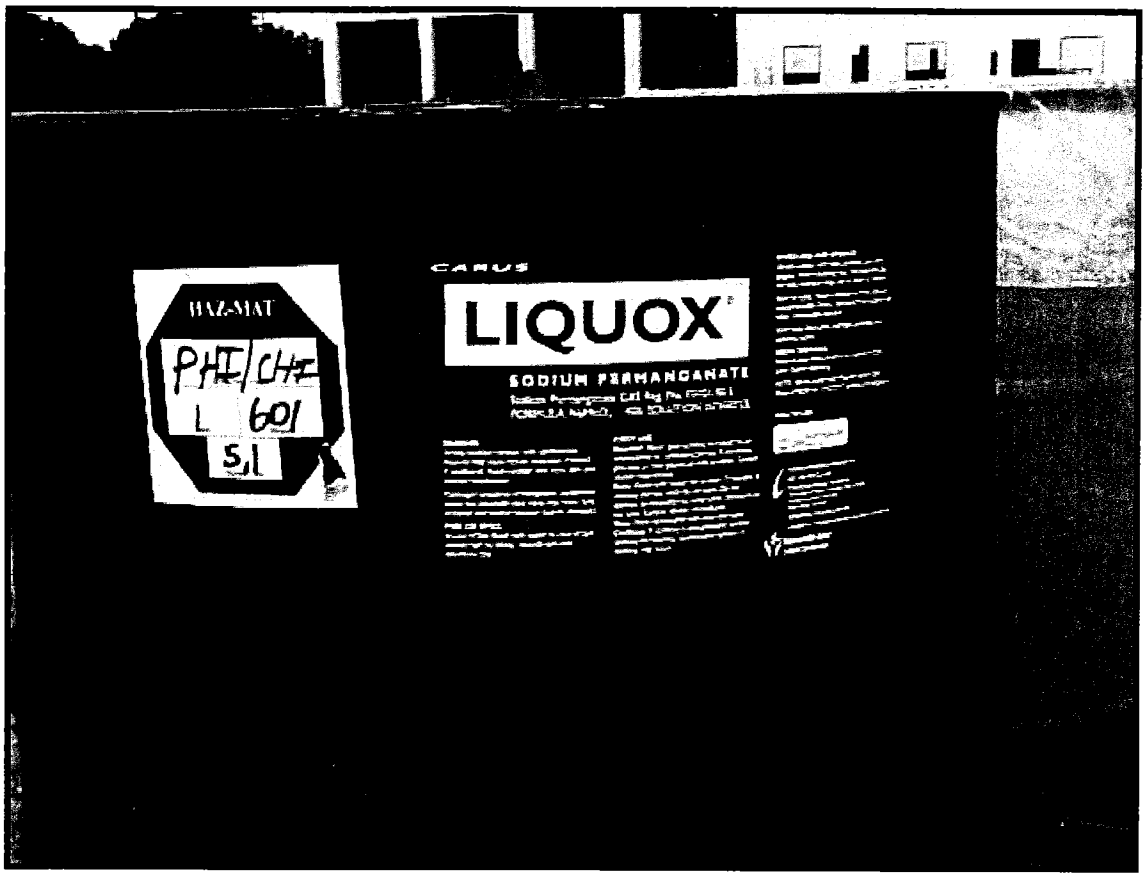
XREFS: IN "S: None

GROUNDWATER PILOT STUDY
LARC 60 SITE
FORT STORY, VIRGINIA

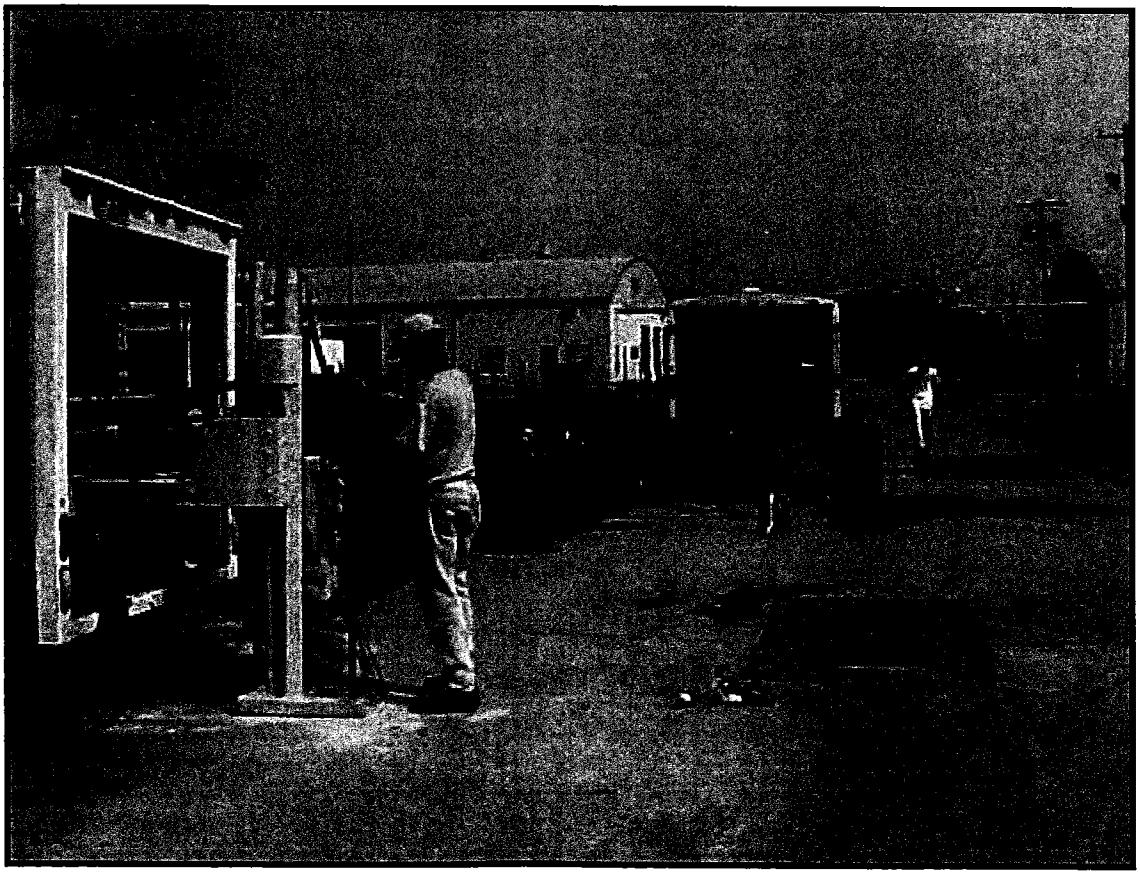


PHOTOGRAPH #1 – PERMANGANATE BATCHES

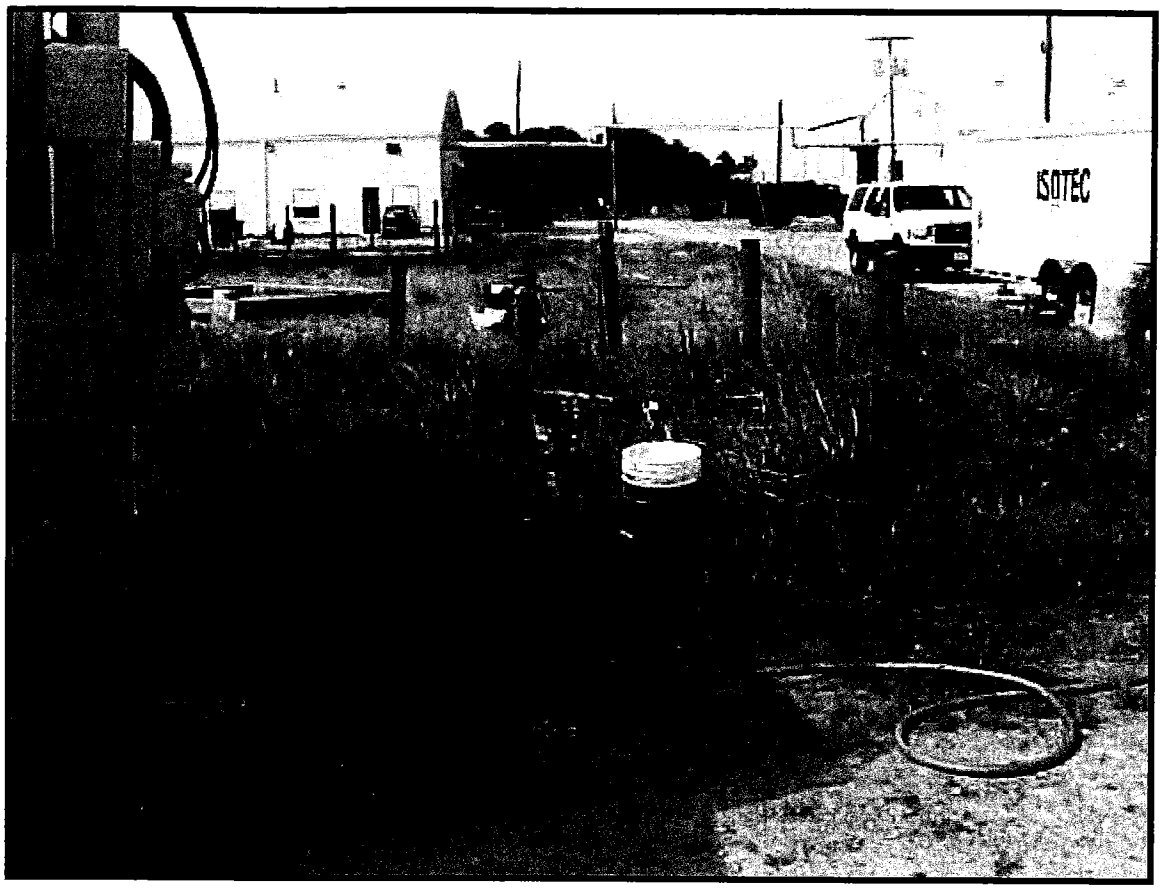
PHOTOGRAPH #2 – PEMANGANATE INTAKE PUMP



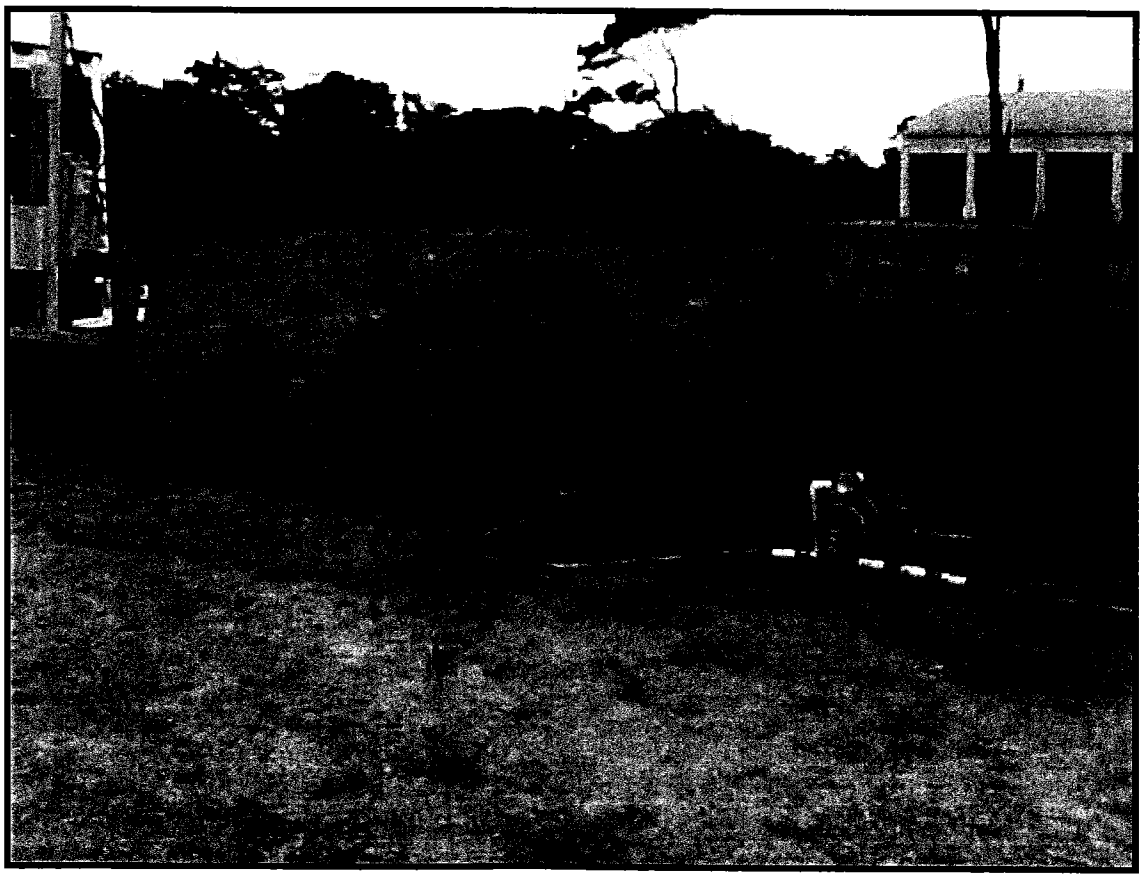
PHOTOGRAPH #3 – PERMANGANATE DRUM LABEL



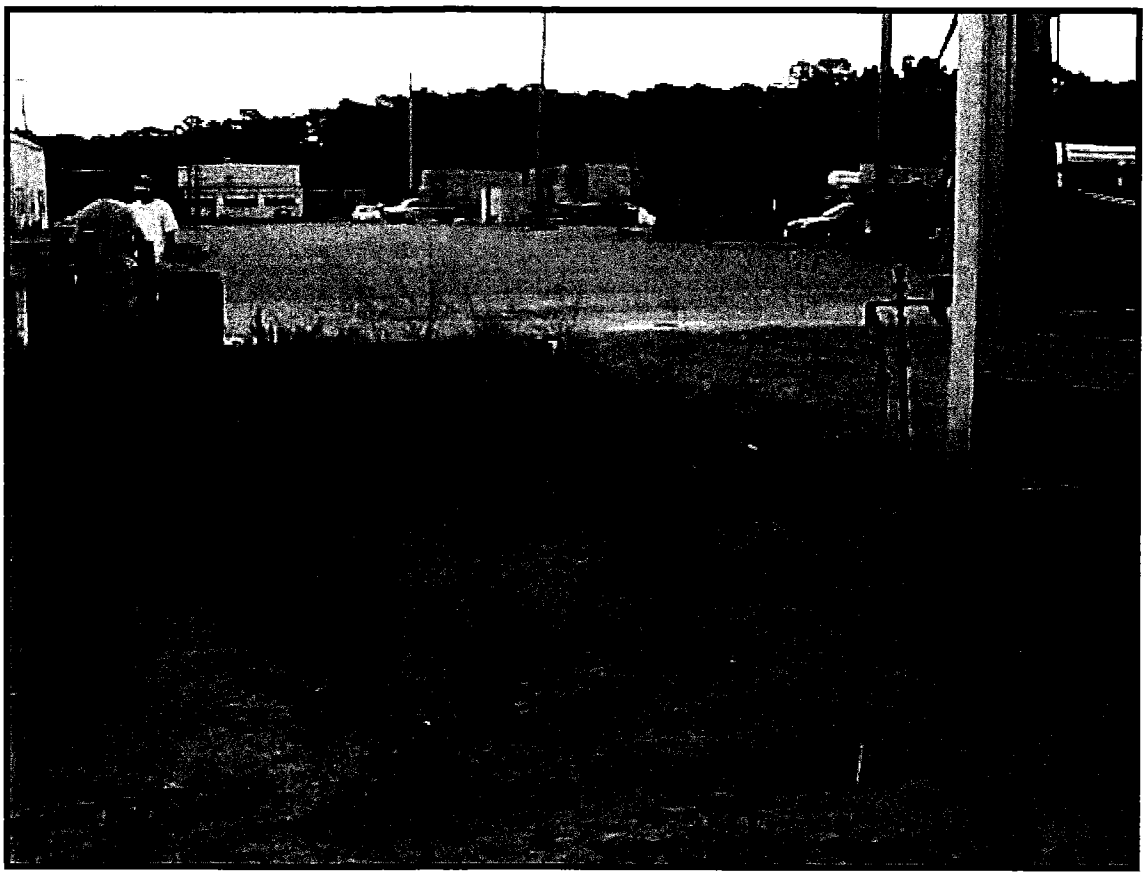
PHOTOGRAPH #4 – INJECTION POINT INSTALLATION WITH GEOPROBE



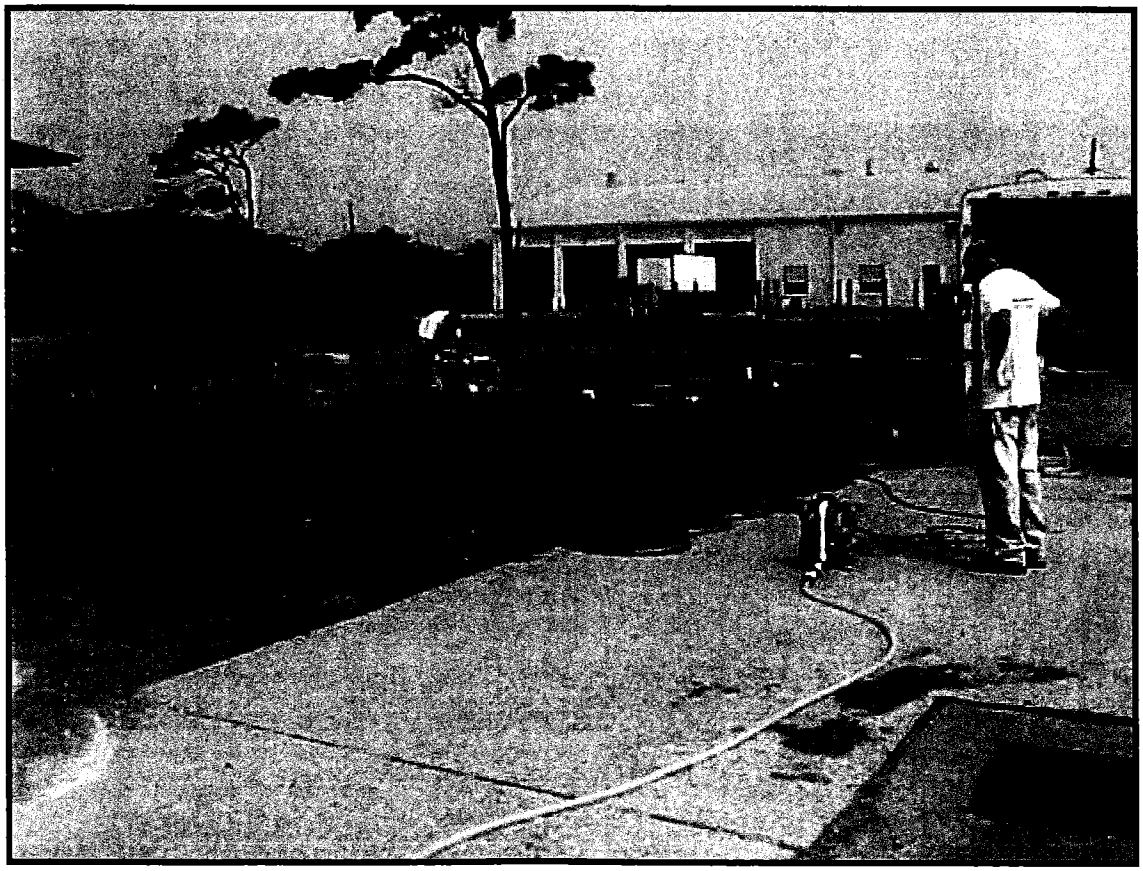
PHOTOGRAPH #5 – PERMANGANATE PUMPLING



PHOTOGRAPH #6 – PERMANGANATE PUMPING



PHOTOGRAPH #7 – PERMANGANATE PUMPING



PHOTOGRAPH #8 – PERMANGANATE PUMPING

GROUNDWATER PILOT STUDY
LARC 60 SITE
FORT STORY, VIRGINIA

PRE-INJECTION #1 ANALYTICAL RESULTS

GROUNDWATER PILOT STUDY REPORT
LARC 60 SITE
FORT STORY, VIRGINIA

U.S. ARMY TRANSPORTATION CENTER
FORT EUSTIS, VIRGINIA

0285-900

ENVIROCOMPLIANCE LABORATORIES, INC.

816 Kiwanis Street
Hampton, Virginia 23661
Phone 804 · 244 · 3424
Fax 804 · 244 · 3243

Certificate of Analysis

Malcolm Pirnie, Inc.
Attn: Grey Richter
701 Town Center Drive
Newport News, VA 23606

Project No. : 0205900
Project Name : Fort Story
Date Received: July 29, 2003
Date Sampled : July 25, 2003
Date Issued : August 07, 2003

Lab # 1/Sample ID : TW-01-GW

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Iron	14.10	mg/l	0.25	07-30/1030	08-06/1400	236.1	PEJ
Chloride	41	mg/l	1	08-01/1127	08-01/1622	300.0	GBH

Lab # 2/Sample ID : MW-117-GW

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Iron	4.60	mg/l	0.25	07-30/1030	08-06/1400	236.1	PEJ
Chloride	16	mg/l	1	08-01/1127	08-01/1622	300.0	GBH

BDL - Below Detection Limit

Anamarie E. McKinley
Laboratory Manager

H3713518-1

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
85889-1	TW-01-GW	Liquid	07/30/03	07/25/03 14:00	

Parameter	Units	Lab Sample IDs 85889-1
Volatiles by GC/MS (8260)		
Chloromethane	ug/l	1.0U
Bromomethane (Methyl bromide)	ug/l	1.0U
Vinyl chloride	ug/l	1.0U
Chloroethane	ug/l	1.0U
Methylene chloride (Dichloromethane)	ug/l	5.0U
Acetone	ug/l	25U
Carbon disulfide	ug/l	1.0U
1,1-Dichloroethene	ug/l	1.0U
1,1-Dichloroethane	ug/l	1.0U
Cis/Trans-1,2-Dichloroethene	ug/l	2.0U
Chloroform	ug/l	1.0U
1,2-Dichloroethane	ug/l	1.0U
2-Butanone (MEK)	ug/l	10U
1,1,1-Trichloroethane	ug/l	1.0U
Carbon tetrachloride	ug/l	1.0U
Bromodichloromethane	ug/l	1.0U
1,1,2,2-Tetrachloroethane	ug/l	1.0U
1,2-Dichloropropane	ug/l	1.0U
trans-1,3-Dichloropropene	ug/l	1.0U
Trichloroethene	ug/l	1.0U
Dibromochloromethane	ug/l	1.0U
1,1,2-Trichloroethane	ug/l	1.0U
Benzene	ug/l	1.0U
cis-1,3-Dichloropropene	ug/l	1.0U
Bromoform	ug/l	1.0U
2-Hexanone	ug/l	10U
4-Methyl-2-pentanone (MIBK)	ug/l	10U
Tetrachloroethene	ug/l	1.0U
Toluene	ug/l	1.0U
Chlorobenzene	ug/l	1.0U
Ethylbenzene	ug/l	1.0U
Styrene	ug/l	1.0U
Xylenes, Total	ug/l	2.0U
Surrogate - Toluene-d8 *	%	100 %
Surrogate - 4-Bromofluorobenzene *	%	88 %

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
85889-1	TW-01-GW	Liquid	07/30/03	07/25/03 14:00	

Lab Sample IDs

Parameter	Units	85889-1
Volatiles by GC/MS (8260)		
Surrogate -		
Dibromofluoromethane *	%	100 %
Dilution Factor		1
Prep Date		08/07/03
Analysis Date		08/07/03
Batch ID		1B0807
Total Organic Carbon (415.1)		
Total Organic Carbon	mg/l	3.6
Dilution Factor		1
Prep Date		08/06/03
Analysis Date		08/07/03
Batch ID		0806B
Diesel Range Organics (8015)		
Hydrocarbons as DRO	mg/l	0.10U
Surrogate - o-Terphenyl *	%	63 %
Dilution Factor		1
Prep Date		08/01/03
Analysis Date		08/05/03
Batch ID		0801V
Gasoline Range Organics (8015M)		
Hydrocarbons as GRO	mg/l	0.050U
Surrogate -		
a,a,a-Trifluorotoluene *	%	57 %
Dilution Factor		1
Prep Date		08/05/03
Analysis Date		08/05/03
Batch ID		1D0805

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
85889-2	TW-01-SS	Solid	07/30/03	07/25/03 12:45	

Lab Sample IDs

Parameter	Units	85889-2
Volatiles by GC/MS (8260)		
Chloromethane	ug/kg dw	5.9U
Bromomethane (Methyl bromide)	ug/kg dw	5.9U
Vinyl chloride	ug/kg dw	5.9U
Chloroethane	ug/kg dw	5.9U
Methylene chloride (Dichloromethane)	ug/kg dw	5.9U
Acetone	ug/kg dw	59U
Carbon disulfide	ug/kg dw	5.9U
1,1-Dichloroethene	ug/kg dw	5.9U
1,1-Dichloroethane	ug/kg dw	5.9U
Cis/Trans-1,2-Dichloroethene	ug/kg dw	12U
Chloroform	ug/kg dw	5.9U
1,2-Dichloroethane	ug/kg dw	5.9U
2-Butanone (MEK)	ug/kg dw	30U
1,1,1-Trichloroethane	ug/kg dw	5.9U
Carbon tetrachloride	ug/kg dw	5.9U
Bromodichloromethane	ug/kg dw	5.9U
1,1,2,2-Tetrachloroethane	ug/kg dw	5.9U
1,2-Dichloropropane	ug/kg dw	5.9U
trans-1,3-Dichloropropene	ug/kg dw	5.9U
Trichloroethene	ug/kg dw	5.9U
Dibromochloromethane	ug/kg dw	5.9U
1,1,2-Trichloroethane	ug/kg dw	5.9U
Benzene	ug/kg dw	5.9U
cis-1,3-Dichloropropene	ug/kg dw	5.9U
Bromoform	ug/kg dw	5.9U
2-Hexanone	ug/kg dw	30U
4-Methyl-2-pentanone (MIBK)	ug/kg dw	30U
Tetrachloroethene	ug/kg dw	5.9U
Toluene	ug/kg dw	5.9U
Chlorobenzene	ug/kg dw	5.9U
Ethylbenzene	ug/kg dw	5.9U
Styrene	ug/kg dw	5.9U
Xylenes, Total	ug/kg dw	12U
Surrogate - Toluene-d8 *	%	95 %
Surrogate - 4-Bromofluorobenzene *	%	100 %

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
85889-2	TW-01-SS	Solid	07/30/03	07/25/03 12:45	

Lab Sample IDs

Parameter	Units	85889-2
Volatiles by GC/MS (8260)		
Surrogate -		
Dibromofluoromethane *	%	108 %
Percent Solids		83
Dilution Factor		1
Prep Date		08/04/03
Analysis Date		08/04/03
Batch ID		1L0804
Total Organic Carbon (9060)		
Total Organic Carbon	mg/kg dw	1000U
Percent Solids		83
Dilution Factor		1
Prep Date		08/04/03
Analysis Date		08/05/03
Batch ID		0805X
Diesel Range Organics (8015)		
Hydrocarbons as DRO	mg/kg dw	4.0U
Surrogate - o-Terphenyl *	%	42 %
Percent Solids		83
Dilution Factor		1
Prep Date		08/05/03
Analysis Date		08/06/03
Batch ID		0805U
Gasoline Range Organics (8015M)		
Hydrocarbons as GRO	mg/kg dw	0.30U
Surrogate -		
a,a,a-Trifluorotoluene *	%	139 %
Percent Solids		83
Dilution Factor		1
Prep Date		08/07/03
Analysis Date		08/07/03
Batch ID		1A0807

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-MW-117

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: Q2849

Matrix: (soil/water) WATER Lab Sample ID: Q2849-3

Sample wt/vol: 5 (g/ml) ML Lab File ID: Q2849-3B59

Level: (low/med) LOW Date Received: 01/15/03

% Moisture: not dec. _____ Date Analyzed: 01/22/03

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-15-0	Carbon disulfide	5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5	U
67-64-1	Acetone	32	
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl-tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	22	
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	1	J
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	1	JB
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	2	J
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-MW-117

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: Q2849

Matrix: (soil/water) WATER Lab Sample ID: Q2849-3

Sample wt/vol: 5 (g/ml) ML Lab File ID: Q2849-3B59

Level: (low/med) LOW Date Received: 01/15/03

% Moisture: not dec. _____ Date Analyzed: 01/22/03

GC Column: ZB-624 ID: 0.32 (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
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	29	
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropyl Benzene	12	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
1330-20-7	Xylene (total)	130	
79-20-9	Methyl acetate	5	U
110-82-7	Cyclohexane	15	
108-87-2	Methylcyclohexane	26	

INJECTION POINT CHLORIDE AND IRON RESULTS
(INJECTIONS #1 AND #2)

GROUNDWATER PILOT STUDY REPORT
LARC 60 SITE
FORT STORY, VIRGINIA

U.S. ARMY TRANSPORTATION CENTER
FORT EUSTIS, VIRGINIA

0285-900

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

INJ-PT1

Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 525

Matrix (soil/water): WATER Lab Sample ID: 52501

Date Received: 8/18/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	8.18				8/20/03
Ferrous Iron	3.92				8/27/03

Comments:

00002

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

INJ-PT2

Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 525

Matrix (soil/water): WATER Lab Sample ID: 52502

Date Received: 8/18/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	8.48				8/20/03
Ferrous Iron	13.4				8/27/03

Comments:

00003

Form I - CC

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

INJ-PT3

Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 525

Matrix (soil/water): WATER Lab Sample ID: 52503

Date Received: 8/18/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	8.28				8/20/03
Ferrous Iron	2.04				8/27/03

Comments:

00004

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

INJ-PT4

Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 525

Matrix (soil/water): WATER Lab Sample ID: 52504

Date Received: 8/18/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	9.43				8/20/03
Ferrous Iron	1.88				8/27/03

Comments:

00005

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

INJ-PT5

Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 525

Matrix (soil/water): WATER Lab Sample ID: 52505

Date Received: 8/18/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	7.17				8/20/03
Ferrous Iron	1.72				8/27/03

Comments:

00006

ENVIROCOMPLIANCE LABORATORIES, INC.

816 Kiwanis Street
Hampton, Virginia 23661
Phone 757 · 244 · 3424
Fax 757 · 244 · 3243

Certificate of Analysis

Malcolm Pirnie, Inc.
Attn: Tony Pace
701 Town Center Drive
Newport News, VA 23606

Project No. : 0285-900
Project Name : LARC 60
Date Received: May 14, 2004
Date Sampled : May 14, 2004
Date Issued : May 27, 2004

Lab # 1/Sample ID : IP-1

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Iron	1.84	mg/l	0.25	05-18/0915	05-27/1200	236.1	PEJ
Chloride	12	mg/l	1	05-27/1200	05-27/1215	325.3	PEJ

Lab # 2/Sample ID : IP-2

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Iron	1.05	mg/l	0.25	05-18/0915	05-27/1200	236.1	PEJ
Chloride	9	mg/l	1	05-27/1200	05-27/1215	325.3	PEJ

Lab # 3/Sample ID : IP-3

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Iron	1.10	mg/l	0.25	05-18/0915	05-27/1200	236.1	PEJ
Chloride	14	mg/l	1	05-27/1200	05-27/1215	325.3	PEJ

Lab # 4/Sample ID : IP-4

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Iron	13.77	mg/l	0.25	05-18/0915	05-27/1200	236.1	PEJ
Chloride	16	mg/l	1	05-27/1200	05-27/1215	325.3	PEJ

Lab # 5/Sample ID : IP-5

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Iron	13.25	mg/l	0.25	05-18/0915	05-27/1200	236.1	PEJ
Chloride	19	mg/l	1	05-27/1200	05-27/1215	325.3	PEJ

BDL = Below Detection Limit

Anamarie E. McKinley
Laboratory Manager

H4514924-1

RECEIVED
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MALCOLM PIRNIE
NEWPORT NEWS
ROUTE:

REBOUND MONITORING – INJECTION #1

GROUNDWATER PILOT STUDY REPORT
LARC 60 SITE
FORT STORY, VIRGINIA

U.S. ARMY TRANSPORTATION CENTER
FORT EUSTIS, VIRGINIA

0285-900

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

MW117-8-22

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 677

Matrix (soil/water): WATER Lab Sample ID: 67701

Date Received: 9/3/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	8.99				9/9/03

Comments:

000 2

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

TW-8-26

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 677

Matrix (soil/water): WATER Lab Sample ID: 67704

Date Received: 9/3/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	34.2				9/9/03

Comments:

Form I - CC

SW846 METALS

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW117-8-22

b Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 677

Matrix (soil/water): WATER Lab Sample ID: 67701

Level (low/med): LOW Date Received: 9/3/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	16.3			P
7439-89-6	Iron	6950			P

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLOUDY Artifacts:

Comments:

000 7

SW846 METALS

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

TW-8-26

b Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 677

Matrix (soil/water): WATER Lab Sample ID: 67704

Level (low/med): LOW Date Received: 9/3/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.6	U		P
7439-89-6	Iron	8290			P

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLOUDY Artifacts:

Comments:

000 9

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

MW117-8-29

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 677

Matrix (soil/water): WATER Lab Sample ID: 67702

Date Received: 9/3/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	11.4				9/9/03

Comments:

Form I - CC

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

TW-8-29

La. ame: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 677

Matrix (soil/water): WATER Lab Sample ID: 67703

Date Received: 9/3/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	35.0				9/9/03

Comments:

SW846 METALS

-1-

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MW117-8-29

b Name: COMPUCHEM Contract: _____

Lab Code: LIBRTY Case No.: _____ SAS No.: _____ SDG No.: 677

Matrix (soil/water): WATER Lab Sample ID: 67702

Level (low/med): LOW Date Received: 9/3/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	21.5			P
7439-89-6	Iron	7940			P

Color Before: COLORLESS Clarity Before: CLOUDY Texture: _____

Color After: COLORLESS Clarity After: CLOUDY Artifacts: _____

Comments: _____

000 8

SW846 METALS

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

TW-8-29

ab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 677

Matrix (soil/water): WATER Lab Sample ID: 67703

Level (low/med): LOW Date Received: 9/3/03

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	2.6	U		P
7439-89-6	Iron	8160			P

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLOUDY Artifacts:

Comments:

00 10

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-117-3

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 834

Matrix (soil/water): WATER Lab Sample ID: 83401

Date Received: 9/23/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	11.0				10/2/03
Ferrous Iron	6.60				9/30/03

Comments:

00 2

Form I - CC

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

TW01-3

Lab Name: CompuChem Contract: _____

Lab Code: LIBRTY Case No.: _____ NRAS No.: _____

SDG No.: 834

Matrix (soil/water): WATER Lab Sample ID: 83403

Date Received: 9/23/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	34.2				10/2/03
Ferrous Iron	2.38				9/30/03

Comments:

00 4

Form I - CC

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-117-4

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 834

Matrix (soil/water): WATER Lab Sample ID: 83402

Date Received: 9/23/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	9.84				10/2/03
Ferrous Iron	1.90				9/30/03

Comments:

00 3

Form I - CC

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

TW01-4

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 834

Matrix (soil/water): WATER Lab Sample ID: 83404

Date Received: 9/23/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	35.7				10/2/03
Ferrous Iron	2.48				9/30/03

Comments:

000 5

Form I - CC

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

MW-117-5

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 862

Matrix (soil/water): WATER Lab Sample ID: 86201

Date Received: 9/25/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	9.46				10/2/03
Ferrous Iron	3.80				9/30/03

Comments:

2

Form I - CC

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

TW-01-5

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 862

Matrix (soil/water): WATER Lab Sample ID: 86202

Date Received: 9/25/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	34.7				10/2/03
Ferrous Iron	5.45				9/30/03

Comments:

00 3

Form I - CC

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

MW117

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 1142

Matrix (soil/water): WATER Lab Sample ID: 114202

Date Received: 10/20/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	11.7				10/21/03
TOC	27.91				10/24/03
Ferrous Iron	8.25				10/20/03

Comments:

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

TW01

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 1142

Matrix (soil/water): WATER Lab Sample ID: 114201

Date Received: 10/20/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	37.0				10/21/03
TOC	25.43				10/24/03
Ferrous Iron	6.65				10/20/03

Comments:

Form I - CC

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW117

Lab Name: COMPUCHEM Contract: 8015

Lab Code: COMPU Case No.: SAS No.: SDG No.: 1142

Matrix: (soil/water) WATER Lab Sample ID: 114202

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N)___ Date Received: 10/20/03

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:10/21/03

Concentrated Extract Volume: 2500(uL) Date Analyzed: 10/22/03

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L	Q
9999-99-5	Diesel	2.5	

FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TW01

Lab Name: COMPUCHEM Contract: 8015

Lab Code: COMPU Case No.: SAS No.: SDG No.: 1142

Matrix: (soil/water) WATER Lab Sample ID: 114201

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N)___ Date Received: 10/20/03

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:10/21/03

Concentrated Extract Volume: 2500(uL) Date Analyzed: 10/22/03

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L	Q
9999-99-5	-------Diesel	2.5	U

FORM I PEST

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW117

Lab Name: COMPUCHEM Method: 8260

.b Code: LIBRTY Case No.: SAS No.: SDG No.: 1142

Matrix: (soil/water) WATER Lab Sample ID: 114202

Sample wt/vol: 5 (g/ml) ML Lab File ID: 114202B59

Level: (low/med) LOW Date Received: 10/20/03

% Moisture: not dec. _____ Date Analyzed: 10/30/03

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-15-0	Carbon disulfide	5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5	U
67-64-1	Acetone	13	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl-tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	190	
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	66	
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW117

Lab Name: COMPUCHEM Method: 8260

.b Code: LIBRTY Case No.: SAS No.: SDG No.: 1142

Matrix: (soil/water) WATER Lab Sample ID: 114202

Sample wt/vol: 5 (g/ml) ML Lab File ID: 114202B59

Level: (low/med) LOW Date Received: 10/20/03

% Moisture: not dec. _____ Date Analyzed: 10/30/03

GC Column: ZB-624 ID: 0.32 (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
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	12	
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropyl Benzene	7	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
1330-20-7	Xylene (total)	75	
79-20-9	Methyl acetate	5	U
110-82-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TW01

Lab Name: COMPUCHEM Method: 8260

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 1142

Matrix: (soil/water) WATER Lab Sample ID: 114201

Sample wt/vol: 5 (g/ml) ML Lab File ID: 114201B59

Level: (low/med) LOW Date Received: 10/20/03

% Moisture: not dec. _____ Date Analyzed: 10/30/03

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-15-0	Carbon disulfide	5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5	U
67-64-1	Acetone	13	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl-tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	0.8	J
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TW01

Lab Name: COMPUCHEM Method: 8260

.b Code: LIBRTY Case No.: SAS No.: SDG No.: 1142

Matrix: (soil/water) WATER Lab Sample ID: 114201

Sample wt/vol: 5 (g/ml) ML Lab File ID: 114201B59

Level: (low/med) LOW Date Received: 10/20/03

% Moisture: not dec. _____ Date Analyzed: 10/30/03

GC Column: ZB-624 ID: 0.32 (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
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropyl Benzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
1330-20-7	Xylene (total)	5	U
79-20-9	Methyl acetate	5	U
110-82-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

DP01SS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 1155

Matrix: (soil/water) SOIL Lab Sample ID: 115501

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 15501A71

Level: (low/med) LOW Date Received: 10/21/03

% Moisture: not dec. 17 Date Analyzed: 10/23/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-71-8	Dichlorodifluoromethane	6	U
74-87-3	Chloromethane	6	U
75-01-4	Vinyl Chloride	6	U
74-83-9	Bromomethane	6	U
75-00-3	Chloroethane	6	U
75-69-4	Trichlorofluoromethane	6	U
75-35-4	1,1-Dichloroethene	6	U
75-15-0	Carbon disulfide	6	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	6	U
67-64-1	Acetone	15	U
75-09-2	Methylene Chloride	6	U
156-60-5	trans-1,2-Dichloroethene	6	U
1634-04-4	Methyl-tert-butyl ether	6	U
75-34-3	1,1-Dichloroethane	6	U
156-59-2	cis-1,2-Dichloroethene	6	U
78-93-3	2-butanone	15	U
67-66-3	Chloroform	6	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
71-43-2	Benzene	6	U
107-06-2	1,2-Dichloroethane	6	U
79-01-6	Trichloroethene	6	U
78-87-5	1,2-Dichloropropane	6	U
75-27-4	Bromodichloromethane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
108-10-1	4-Methyl-2-pentanone	15	U
108-88-3	Toluene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
79-00-5	1,1,2-Trichloroethane	6	U
127-18-4	Tetrachloroethene	6	U
591-78-6	2-hexanone	15	U
124-48-1	Dibromochloromethane	6	U
106-93-4	1,2-Dibromoethane	6	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

DP01SS

Lab Name: COMPUCHEM Method: 8260B

ab Code: LIBRTY Case No.: SAS No.: SDG No.: 1155

Matrix: (soil/water) SOIL Lab Sample ID: 115501

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 15501A71

Level: (low/med) LOW Date Received: 10/21/03

% Moisture: not dec. 17 Date Analyzed: 10/23/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
75-25-2	Bromoform	6	U
98-82-8	Isopropyl Benzene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
541-73-1	1,3-Dichlorobenzene	6	U
106-46-7	1,4-Dichlorobenzene	6	U
95-50-1	1,2-Dichlorobenzene	6	U
96-12-8	1,2-Dibromo-3-Chloropropane	6	U
120-82-1	1,2,4-Trichlorobenzene	6	U
1330-20-7	Xylene (total)	5	J
79-20-9	Methyl acetate	6	U
110-82-7	Cyclohexane	6	U
108-87-2	Methylcyclohexane	6	U

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

DP01SS

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 1155

Matrix (soil/water): SOIL Lab Sample ID: 115501

Date Received: 10/21/03 % Solids: 82.60

Concentration Units (mg/L or mg/kg dry weight): mg/Kg

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
pH (soil)	9.8				10/24/03
TOC	715.0				10/27/03

Comments: PH is reported in pH units.

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DP01SS

Lab Name: COMPUCHEM Contract: 8015

Lab Code: COMPU Case No.: SAS No.: SDG No.: 1155

Matrix: (soil/water) SOIL Lab Sample ID: 115501

Sample wt/vol: 20.0 (g/mL) G Lab File ID: _____

% Moisture: 17 decanted: (Y/N) N Date Received: 10/21/03

Extraction: (SepF/Cont/Sonc) OTHER Date Extracted:10/23/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 10/24/03

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
9999-99-5	Diesel	12	U

FORM I PEST

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

DP01SS

La ame: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: 1157

Matrix (soil/water): WATER Lab Sample ID: 115701

Date Received: 10/21/03 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): mg/L

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
Chloride	2.17				10/24/03
Ferrous Iron	0.400	U			10/24/03

Comments:

REBOUND MONITORING – INJECTION #2

GROUNDWATER PILOT STUDY REPORT
LARC 60 SITE
FORT STORY, VIRGINIA

U.S. ARMY TRANSPORTATION CENTER
FORT EUSTIS, VIRGINIA

0285-900

ENVIROCOMPLIANCE LABORATORIES, INC.

816 Kiwanis Street
Hampton, Virginia 23661
Phone 757 · 244 · 3424
Fax 757 · 244 · 3243

Certificate of Analysis

Malcolm Pirnie, Inc.
Attn: Tony Pace
701 Town Center Drive
Newport News, VA 23606

Project No. : 2118-035
Project Name : LARC 60
Date Received: May 28, 2004
Date Sampled : May 28, 2004
Date Issued : June 24, 2004

Lab # 1/Sample ID : MW-117

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Chloride	205	mg/l	1	06-21/1300	06-21/1645	300.0	SGM
Iron	6.5	mg/l	0.2	06-04/0915	06-09/1425	236.1	JFJ

Lab # 2/Sample ID : Temp Well

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Chloride	116	mg/l	1	06-21/1300	06-21/1645	300.0	SGM
Iron	4.7	mg/l	0.2	06-04/0915	06-09/1425	236.1	JFJ

BDL = Below Detection Limit

Anamarie E. McKinley
Laboratory Manager

H4514992-1

ENVIROCOMPLIANCE LABORATORIES, INC.

816 Kiwanis Street
Hampton, Virginia 23661
Phone 757 · 244 · 3424
Fax 757 · 244 · 3243

Certificate of Analysis

Malcolm Pirnie, Inc.
Attn: Tony Pace
701 Town Center Drive
Newport News, VA 23606

Project Name : LARC 60 - FT. Story
Date Received: June 07, 2004
Date Sampled : June 07, 2004
Date Issued : June 24, 2004

Lab # 1/Sample ID : MW-117

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Chloride	124	mg/l	1	06-21/1300	06-21/1645	300.0	SGM
Iron	5.7	mg/l	0.2	06-04/0915	06-09/1425	236.1	JFJ

Lab # 2/Sample ID : Temporary Well

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Chloride	396	mg/l	1	06-21/1300	06-21/1645	300.0	SGM
Iron	6.1	mg/l	0.2	06-04/0915	06-09/1425	236.1	JFJ

BDL = Below Detection Limit

Anamarie E. McKinley
Laboratory Manager

H4615028-1

ENVIROCOMPLIANCE LABORATORIES, INC.

Certificate of Analysis

816 Kiwanis Street
Hampton, Virginia 23661
Phone 757 · 244 · 3424
Fax 757 · 244 · 3243

Malcolm Pirnie, Inc.
Attn: Tony Pace
701 Town Center Drive
Newport News, VA 23606

Project No. : 2118-035
Project Name : LARC 60 - FT. Story
Date Received: June 15, 2004
Date Sampled : June 14, 2004
Date Issued : July 06, 2004

Lab # 1/Sample ID : MW-117

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Chloride	107	mg/l	1	07-02/1545	07-02/1700	SM4500CL	SGM
Iron	4.8	mg/l	1.0	06-16/0830	06-16/1630	236.1	JFJ

Lab # 2/Sample ID : Temporary Well

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Chloride	45	mg/l	1	07-02/1545	07-02/1700	SM4500CL	SGM
Iron	6.4	mg/l	1.0	06-16/0830	06-16/1630	236.1	JFJ

BDL = Below Detection Limit

Anamarie E. McKinley
Laboratory Manager

H4615066-1

ENVIROCOMPLIANCE LABORATORIES, INC.

816 Kiwanis Street
Hampton, Virginia 23661
Phone 757 · 244 · 3424
Fax 757 · 244 · 3243

Certificate of Analysis

Malcolm Pirnie, Inc.
Attn: Tony Pace
701 Town Center Drive
Newport News, VA 23606

Project No. : 2118-035
Project Name : LARC 60
Date Received: June 18, 2004
Date Sampled : June 18, 2004
Date Issued : July 06, 2004

Lab # 1/Sample ID : MW-117

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Iron	5.9	mg/l	1.0	06-21/1030	06-22/0900	236.1	JFJ
Chloride	12	mg/l	1	07-02/1545	07-02/1700	SM4500CL	SGM

Lab # 2/Sample ID : Temporary Well

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Iron	7.3	mg/l	1.0	06-21/1030	06-22/0900	236.1	JFJ
Chloride	351	mg/l	1	07-02/1545	07-02/1700	SM4500CL	SGM

BDL = Below Detection Limit

Anamarie E. McKinley
Laboratory Manager

615100-1

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-117

Lab Name: COMPUCHEM Method: 8260B

Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357605

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357605B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.5	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.25	J
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	24	
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	4.0	
108-88-3	Toluene	0.15	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.67	
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-117

Lab Name: COMPUCHEM Method: 8260B

Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357605

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357605B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	6.8	
108-38-3	m,p-Xylene	29	
95-47-6	o-Xylene	32	E
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	6.2	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	65	
110-82-7	Cyclohexane	2.7	
108-87-2	Methylcyclohexane	16	

FORM I VOA

2004 SITE-WIDE GROUNDWATER MONITORING RESULTS

GROUNDWATER PILOT STUDY REPORT
LARC 60 SITE
FORT STORY, VIRGINIA

U.S. ARMY TRANSPORTATION CENTER
FORT EUSTIS, VIRGINIA

0285-900

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-117

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357605

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357605B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.5	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.25	J
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	24	
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	4.0	
108-88-3	Toluene	0.15	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.67	
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-117

b Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357605

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357605B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	6.8	
108-38-3	m,p-Xylene	29	
95-47-6	o-Xylene	32	E
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	6.2	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	65	
110-82-7	Cyclohexane	2.7	
108-87-2	Methylcyclohexane	16	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-117

b Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357605

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357605B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	6.52	4.9	NJ
2. 108-67-8	BENZENE, 1,3,5-TRIMETHYL-	6.56	3.3	NJ
3. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	6.65	3.9	NJ
4. 108-67-8	BENZENE, 1,3,5-TRIMETHYL-	6.71	9.9	NJ
5.	SUBSTITUTED BENZENE	6.94	4.2	J
6. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	6.96	2.5	NJ
7. 99-87-6	BENZENE, 1-METHYL-4-(1-METHY	7.08	2.5	NJ
8. 767-58-8	INDAN, 1-METHYL-	7.16	2.0	NJ
9. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	7.29	2.0	NJ
10. 768-00-3	BENZENE, (1-METHYL-1-PROPENY	7.45	3.9	NJ
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-117DL

b Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357605

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357605DB62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.9

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.96	U
74-87-3	Chloromethane	0.96	U
75-01-4	Vinyl Chloride	0.96	U
74-83-9	Bromomethane	0.96	U
75-00-3	Chloroethane	0.96	U
75-69-4	Trichlorofluoromethane	0.96	U
75-35-4	1,1-Dichloroethene	0.96	U
75-15-0	Carbon disulfide	0.96	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.96	U
67-64-1	Acetone	71	D
79-20-9	Methyl acetate	0.96	U
75-09-2	Methylene Chloride	0.43	DJ
156-60-5	trans-1,2-Dichloroethene	0.24	DJ
1634-04-4	Methyl-tert-butyl ether	0.96	U
75-34-3	1,1-Dichloroethane	0.96	U
156-59-2	cis-1,2-Dichloroethene	23	D
78-93-3	2-butanone	4.8	U
67-66-3	Chloroform	0.96	U
71-55-6	1,1,1-Trichloroethane	0.96	U
56-23-5	Carbon Tetrachloride	0.96	U
71-43-2	Benzene	0.96	U
107-06-2	1,2-Dichloroethane	0.96	U
79-01-6	Trichloroethene	0.96	U
78-87-5	1,2-Dichloropropane	0.96	U
75-27-4	Bromodichloromethane	0.96	U
10061-01-5	cis-1,3-Dichloropropene	0.96	U
108-10-1	4-Methyl-2-pentanone	4.8	U
108-88-3	Toluene	0.96	U
10061-02-6	trans-1,3-Dichloropropene	0.96	U
79-00-5	1,1,2-Trichloroethane	0.96	U
127-18-4	Tetrachloroethene	0.61	DJ
591-78-6	2-hexanone	4.8	U
124-48-1	Dibromochloromethane	0.96	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-117DL

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357605

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357605DB62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.9

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.96	U
108-90-7	Chlorobenzene	0.96	U
100-41-4	Ethylbenzene	6.0	D
108-38-3	m,p-Xylene	25	D
95-47-6	o-Xylene	29	D
100-42-5	Styrene	0.96	U
75-25-2	Bromoform	0.96	U
98-82-8	Isopropyl Benzene	5.4	D
79-34-5	1,1,2,2-Tetrachloroethane	0.96	U
541-73-1	1,3-Dichlorobenzene	0.96	U
106-46-7	1,4-Dichlorobenzene	0.96	U
95-50-1	1,2-Dichlorobenzene	0.96	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.96	U
120-82-1	1,2,4-Trichlorobenzene	0.96	U
1330-20-7	Xylene (total)	57	D
110-82-7	Cyclohexane	2.6	D
108-87-2	Methylcyclohexane	14	D

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-117DL

b Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357605

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357605DB62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.9

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

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 620-14-4	BENZENE, 1-ETHYL-3-METHYL-	6.57	9.2	NJD
2. 108-67-8	BENZENE, 1,3,5-TRIMETHYL-	6.60	6.2	NJD
3. 611-14-3	BENZENE, 1-ETHYL-2-METHYL-	6.69	7.3	NJD
4. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	6.76	20	NJD
5.	SUBSTITUTED BENZENE	6.98	12	JD
6. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	7.12	5.1	NJD
7. 2870-04-4	BENZENE, 2-ETHYL-1,3-DIMETHY	7.14	3.6	NJD
8. 768-49-0	BENZENE, (2-METHYL-1-PROPENY	7.19	4.1	NJD
9. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	7.32	4.5	NJD
10. 768-00-3	BENZENE, (1-METHYL-1-PROPENY	7.49	7.7	NJD
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-118

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362904

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362904RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.26	J
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.12	J
67-64-1	Acetone	3.0	
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.43	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	1.5	J
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.27	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-118

Lab Name: COMPUCHEM Method: 8260B

ab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362904

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362904RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-118

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362904

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362904RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT	11.80	0.92	JB
2.	LABORATORY ARTIFACT	12.98	1.1	JB
3.	STRAIGHT-CHAIN ALKANE	13.54	1.2	JB
4.	LABORATORY ARTIFACT	14.18	0.88	JB
5. 112-95-8	EICOSANE	15.04	0.60	NJ
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362903A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.23	JB
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.83	
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	260	E
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.52	B
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	21	
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.29	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362903A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-2

Lab Name: COMPUCHEM Contract: 8260B

ab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362903A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 4

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		LABORATORY ARTIFACT	10.23	0.77	J
2.		LABORATORY ARTIFACT	11.81	0.77	J
3.		LABORATORY ARTIFACT	12.99	1.1	J
4.		LABORATORY ARTIFACT	14.19	0.89	J
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-2DL

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362903D2A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 3.1

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	1.6	U
74-87-3	Chloromethane	0.50	DJ
75-01-4	Vinyl Chloride	1.6	U
74-83-9	Bromomethane	1.6	U
75-00-3	Chloroethane	1.6	U
75-69-4	Trichlorofluoromethane	1.6	U
75-35-4	1,1-Dichloroethene	1.6	U
75-15-0	Carbon disulfide	1.5	DJ
76-13-1	1,1,2-trichloro-1,2,2-triflu	1.6	U
67-64-1	Acetone	270	D
79-20-9	Methyl acetate	1.6	U
75-09-2	Methylene Chloride	1.2	DJB
156-60-5	trans-1,2-Dichloroethene	1.6	U
1634-04-4	Methyl-tert-butyl ether	1.6	U
75-34-3	1,1-Dichloroethane	1.6	U
156-59-2	cis-1,2-Dichloroethene	1.6	U
78-93-3	2-butanone	21	D
67-66-3	Chloroform	1.6	U
71-55-6	1,1,1-Trichloroethane	1.6	U
56-23-5	Carbon Tetrachloride	1.6	U
71-43-2	Benzene	1.6	U
107-06-2	1,2-Dichloroethane	1.6	U
79-01-6	Trichloroethene	1.6	U
78-87-5	1,2-Dichloropropane	1.6	U
75-27-4	Bromodichloromethane	1.6	U
10061-01-5	cis-1,3-Dichloropropene	1.6	U
108-10-1	4-Methyl-2-pentanone	7.8	U
108-88-3	Toluene	0.54	DJ
10061-02-6	trans-1,3-Dichloropropene	1.6	U
79-00-5	1,1,2-Trichloroethane	1.6	U
127-18-4	Tetrachloroethene	1.6	U
591-78-6	2-hexanone	7.8	U
124-48-1	Dibromochloromethane	1.6	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-2DL

Lab Name: COMPUCHEM Method: 8260B

ab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362903D2A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 3.1

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	1.6	U
108-90-7	Chlorobenzene	1.6	U
100-41-4	Ethylbenzene	1.6	U
108-38-3	m,p-Xylene	3.1	U
95-47-6	o-Xylene	1.6	U
100-42-5	Styrene	1.6	U
75-25-2	Bromoform	1.6	U
98-82-8	Isopropyl Benzene	1.6	U
79-34-5	1,1,2,2-Tetrachloroethane	1.6	U
541-73-1	1,3-Dichlorobenzene	1.6	U
106-46-7	1,4-Dichlorobenzene	1.6	U
95-50-1	1,2-Dichlorobenzene	1.6	U
96-12-8	1,2-Dibromo-3-Chloropropane	1.6	U
120-82-1	1,2,4-Trichlorobenzene	1.6	U
1330-20-7	Xylene (total)	1.6	U
110-82-7	Cyclohexane	1.6	U
108-87-2	Methylcyclohexane	1.6	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-2DL

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362903

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362903D2A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 3.1

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

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT	10.11	5.9	JBD
2.	LABORATORY ARTIFACT	11.80	3.1	JBD
3.	LABORATORY ARTIFACT	12.98	5.0	JBD
4.	STRAIGHT-CHAIN ALKANE	13.55	3.5	JBD
5.	LABORATORY ARTIFACT	14.19	2.6	JBD
6.	STRAIGHT-CHAIN ALKANE	15.04	1.7	JBD
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3S

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362905

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362905DB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 8.3

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	4.2	U
74-87-3	Chloromethane	0.84	J
75-01-4	Vinyl Chloride	9.7	
74-83-9	Bromomethane	4.2	U
75-00-3	Chloroethane	4.2	U
75-69-4	Trichlorofluoromethane	4.2	U
75-35-4	1,1-Dichloroethene	1.3	J
75-15-0	Carbon disulfide	4.2	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	4.2	U
67-64-1	Acetone	17	J
79-20-9	Methyl acetate	4.2	U
75-09-2	Methylene Chloride	3.3	JB
156-60-5	trans-1,2-Dichloroethene	0.87	J
1634-04-4	Methyl-tert-butyl ether	4.2	U
75-34-3	1,1-Dichloroethane	4.2	U
156-59-2	cis-1,2-Dichloroethene	100	
78-93-3	2-butanone	21	U
67-66-3	Chloroform	4.2	U
71-55-6	1,1,1-Trichloroethane	4.2	U
56-23-5	Carbon Tetrachloride	4.2	U
71-43-2	Benzene	4.2	U
107-06-2	1,2-Dichloroethane	4.2	U
79-01-6	Trichloroethene	140	
78-87-5	1,2-Dichloropropane	4.2	U
75-27-4	Bromodichloromethane	4.2	U
10061-01-5	cis-1,3-Dichloropropene	4.2	U
108-10-1	4-Methyl-2-pentanone	21	U
108-88-3	Toluene	4.2	U
10061-02-6	trans-1,3-Dichloropropene	4.2	U
79-00-5	1,1,2-Trichloroethane	4.2	U
127-18-4	Tetrachloroethene	62	
591-78-6	2-hexanone	21	U
124-48-1	Dibromochloromethane	4.2	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3S

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362905

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362905DB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 8.3

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	4.2	U
108-90-7	Chlorobenzene	4.2	U
100-41-4	Ethylbenzene	4.2	U
108-38-3	m,p-Xylene	8.3	U
95-47-6	o-Xylene	4.2	U
100-42-5	Styrene	4.2	U
75-25-2	Bromoform	4.2	U
98-82-8	Isopropyl Benzene	4.2	U
79-34-5	1,1,2,2-Tetrachloroethane	4.2	U
541-73-1	1,3-Dichlorobenzene	4.2	U
106-46-7	1,4-Dichlorobenzene	4.2	U
95-50-1	1,2-Dichlorobenzene	4.2	U
96-12-8	1,2-Dibromo-3-Chloropropane	4.2	U
120-82-1	1,2,4-Trichlorobenzene	4.2	U
1330-20-7	Xylene (total)	4.2	U
110-82-7	Cyclohexane	4.2	U
108-87-2	Methylcyclohexane	4.2	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-3S

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362905

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362905DB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 8.3

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

Number TICs found: 6

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	10.11	15	J
2.		LABORATORY ARTIFACT	11.80	8.6	JB
3.		LABORATORY ARTIFACT	12.98	13	JB
4.		STRAIGHT-CHAIN ALKANE	13.54	8.9	JB
5.		LABORATORY ARTIFACT	14.18	20	JB
6.		STRAIGHT-CHAIN ALKANE	15.04	15	JB
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3D

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362906

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362906RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.21	J
75-01-4	Vinyl Chloride	0.20	J
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	3.3	
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.47	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.33	J
78-93-3	2-butanone	2.5	
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.42	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3D

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362906

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362906RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-3D

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362906

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362906RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 5

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.69	0.56	J
2.		LABORATORY ARTIFACT	11.80	0.83	JB
3.		LABORATORY ARTIFACT	12.98	0.87	JB
4.		STRAIGHT-CHAIN ALKANE	13.55	0.87	JB
5.		LABORATORY ARTIFACT	14.19	0.59	JB
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-5S

b Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357603

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357603B61

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.5	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.18	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	1.1	
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	1.7	
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.84	
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-5S

b Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357603

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357603B61

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-5S

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357603

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357603B61

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (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-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-5D

b Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357606

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357606RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/14/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.5	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.10	JB
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-5D

b Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357606

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357606RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/14/04

GC Column: RTX-VMS ID: 0.18 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-5D

b Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357606

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357606RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/14/04

GC Column: RTX-VMS ID: 0.18 (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-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-6

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357604

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357604B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.5	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.20	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-6

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357604

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357604B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-6

'b Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357604

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357604B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (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-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-7

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357601

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357601B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.5	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.15	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	3.3	
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.83	
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.10	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.49	J
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.12	J

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-7

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357601

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357601B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-7

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357601

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357601B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (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-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-8

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357602

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357602B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.5	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.14	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.15	J
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.15	J
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-8

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357602

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357602B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-8

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357602

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357602B62

Level: (low/med) LOW Date Received: 07/01/04

% Moisture: not dec. _____ Date Analyzed: 07/13/04

GC Column: RTX-VMS ID: 0.18 (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-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-9

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362907

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362907RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.18	J
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	5.4	
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.44	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.15	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-9

Lab Name: COMPUCHEM Method: 8260B

ab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362907

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362907RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-9

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362907

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362907RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 8

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		LABORATORY ARTIFACT	10.26	0.57	J
2.		LABORATORY ARTIFACT	11.80	0.78	JB
3.		LABORATORY ARTIFACT	12.98	0.88	JB
4.		STRAIGHT-CHAIN ALKANE	13.54	0.66	JB
5.		LABORATORY ARTIFACT	14.18	0.67	JB
6.		UNKNOWN	14.47	1.0	J
7.		LABORATORY ARTIFACT	15.59	1.1	JB
8.	128-37-0	BUTYLATED HYDROXYTOLUENE	16.98	2.1	NJ
9.					
10.					
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-10

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362901

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362901RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.31	J
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.22	J
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	5.5	
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.45	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	4.0	
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.36	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-10

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362901

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362901RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.12	J
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.15	JB
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-10

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362901

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362901RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 5

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		LABORATORY ARTIFACT	11.80	0.78	JB
2.		LABORATORY ARTIFACT	12.98	0.90	JB
3.		STRAIGHT-CHAIN ALKANE	13.54	0.86	JB
4.		LABORATORY ARTIFACT	14.18	0.59	JB
5.		STRAIGHT-CHAIN ALKANE	15.04	0.68	JB
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-10-DUP

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362902

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362902RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.18	J
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.22	J
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	3.1	
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.39	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	1.7	J
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.32	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-10-DUP

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362902

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362902RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-10-DUP

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362902

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362902RB71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/16/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 4

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		LABORATORY ARTIFACT	11.80	0.71	JB
2.		LABORATORY ARTIFACT	12.98	0.65	JB
3.		STRAIGHT-CHAIN ALKANE	13.54	0.88	JB
4.		STRAIGHT-CHAIN ALKANE	15.04	0.65	JB
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-11

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357607

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357607RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/14/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.5	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.17	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-11

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357607

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357607RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/14/04

GC Column: RTX-VMS ID: 0.18 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-11

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357607

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357607RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/14/04

GC Column: RTX-VMS ID: 0.18 (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-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-11-DUP

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357608

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357608RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.5	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.16	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-11-DUP

b Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357608

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357608RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: RTX-VMS ID: 0.18 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-11-DUP

b Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357608

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357608RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: RTX-VMS ID: 0.18 (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-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-2MS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 39798

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39798A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.17	JB
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	6.4	
75-15-0	Carbon disulfide	0.71	
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	230	E
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.67	B
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	19	
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	5.7	
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	6.3	
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	6.8	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-2MS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 39798

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39798A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	6.4	
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-2MSD

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 39799

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39799A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.14	JB
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	6.1	
75-15-0	Carbon disulfide	0.70	
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	220	E
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.57	B
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	18	
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	5.9	
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	6.3	
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	6.5	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-2MSD

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 39799

Sample wt/vol: 25 (g/ml) ML Lab File ID: 39799A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	6.3	
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIPBLAN
K 070104

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357609

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357609RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.5	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.54	
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.19	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIPBLAN
K 070104

b Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357609

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357609RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: RTX-VMS ID: 0.18 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TRIPBLAN
K 070104

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3576

Matrix: (soil/water) WATER Lab Sample ID: 357609

Sample wt/vol: 25 (g/ml) ML Lab File ID: 357609RB62

Level: (low/med) LOW Date Received: 07/02/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: RTX-VMS ID: 0.18 (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-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIPBLANK
07-07-04

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362908

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362908A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.18	JB
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.5	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.35	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	1.9	J
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.25	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIPBLANK
07-07-04

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362908

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362908A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.11	J
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.13	J
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.21	J
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TRIPBLANK
07-07-04

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362908

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362908A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

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

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIPBLANK
07-08-04

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362909

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362909A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.10	JB
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	1.3	J
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.25	JB
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	1.3	J
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.14	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIPBLANK
07-08-04

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362909

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362909A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.15	J
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TRIPBLANK
07-08-04

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3629

Matrix: (soil/water) WATER Lab Sample ID: 362909

Sample wt/vol: 25 (g/ml) ML Lab File ID: 362909A71

Level: (low/med) LOW Date Received: 07/09/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT	12.99	0.59	J
2.	LABORATORY ARTIFACT	14.18	1.2	J
3.	LABORATORY ARTIFACT	15.60	1.2	J
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-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-115

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3654

Matrix: (soil/water) WATER Lab Sample ID: 365401

Sample wt/vol: 25 (g/ml) ML Lab File ID: 365401B62

Level: (low/med) LOW Date Received: 07/14/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.9	
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.34	J
156-59-2	cis-1,2-Dichloroethene	0.30	J
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-115

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3654

Matrix: (soil/water) WATER Lab Sample ID: 365401

Sample wt/vol: 25 (g/ml) ML Lab File ID: 365401B62

Level: (low/med) LOW Date Received: 07/14/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: RTX-VMS ID: 0.18 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.16	J
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-115D

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3654

Matrix: (soil/water) WATER Lab Sample ID: 365402

Sample wt/vol: 25 (g/ml) ML Lab File ID: 365402B62

Level: (low/med) LOW Date Received: 07/14/04

% Moisture: not dec. _____ Date Analyzed: 07/15/04

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	3.0	
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.37	J
156-59-2	cis-1,2-Dichloroethene	0.29	J
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-115D

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 3654

Matrix: (soil/water) WATER Lab Sample ID: 365402

Sample wt/vol: 25 (g/ml) ML Lab File ID: 365402B62

Level: (low/med) LOW Date Received: 07/14/04

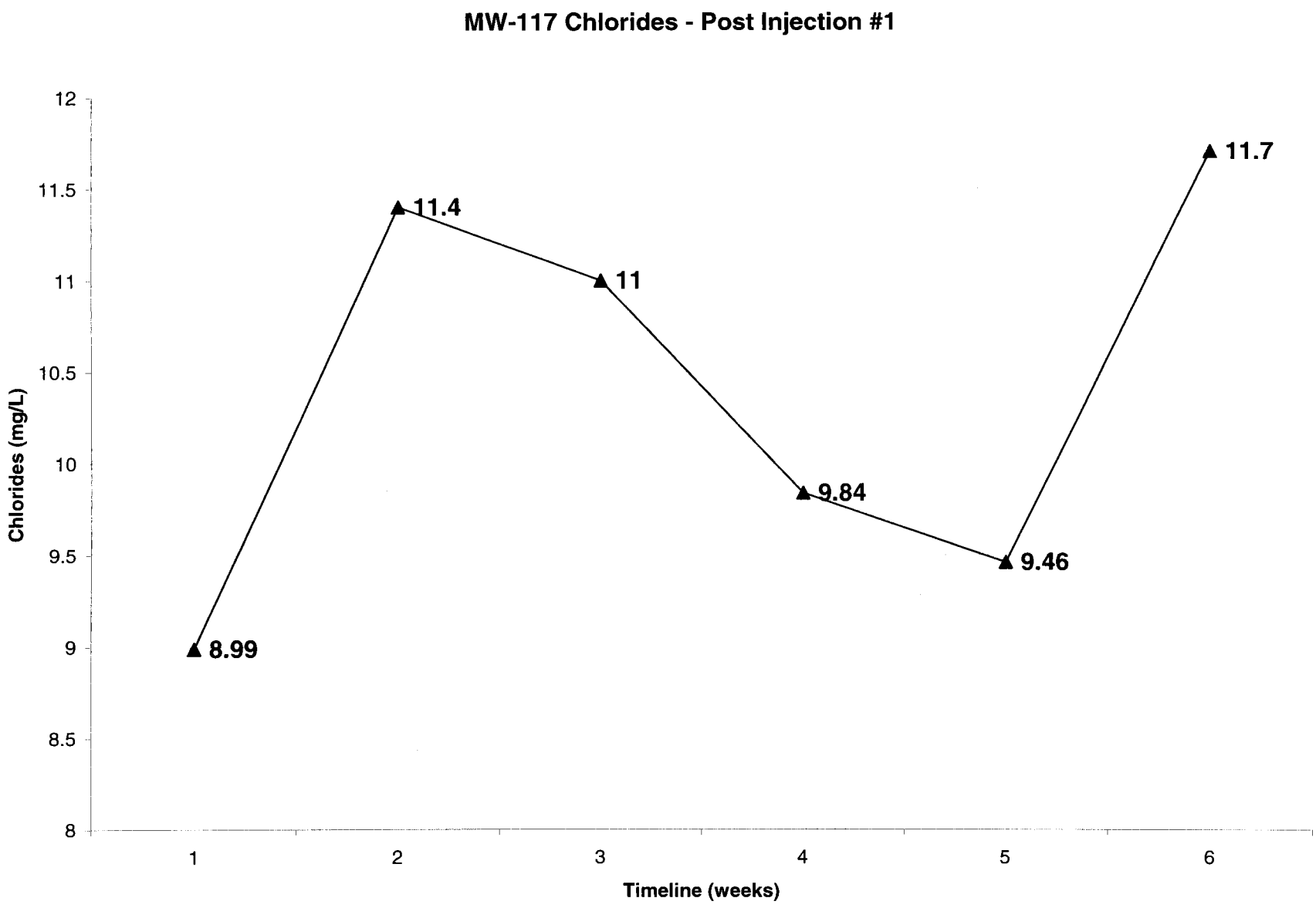
% Moisture: not dec. _____ Date Analyzed: 07/15/04

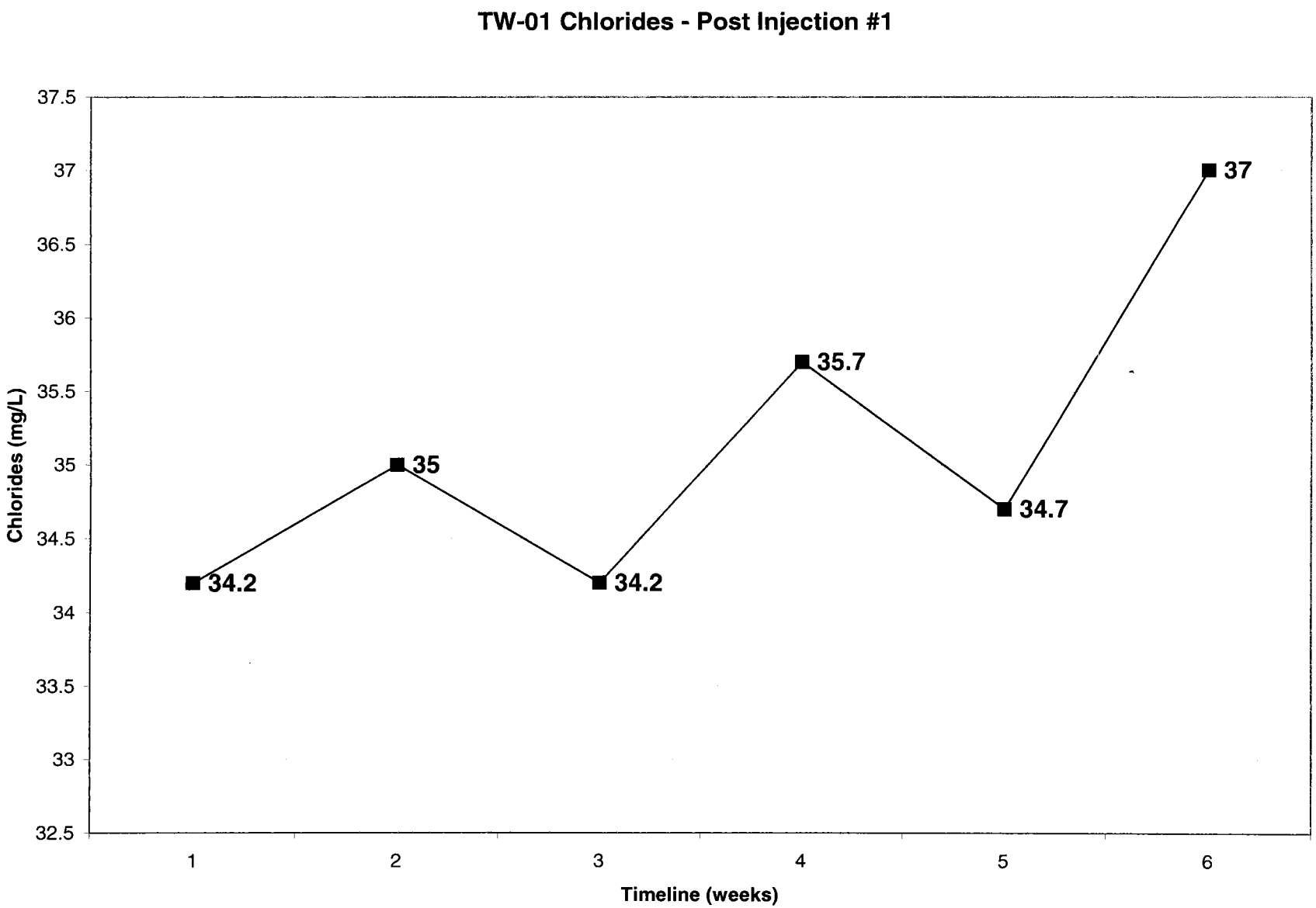
GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

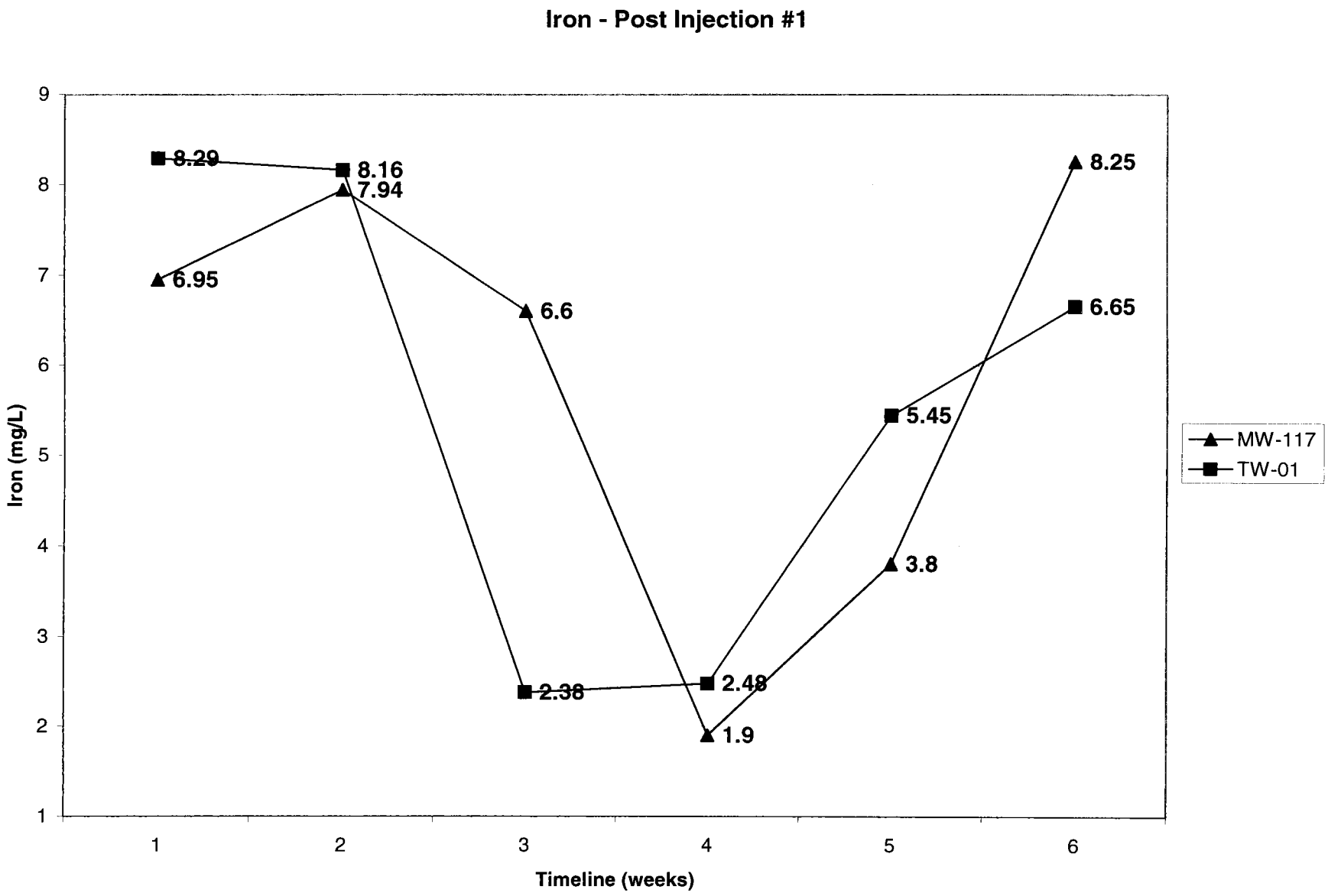
Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

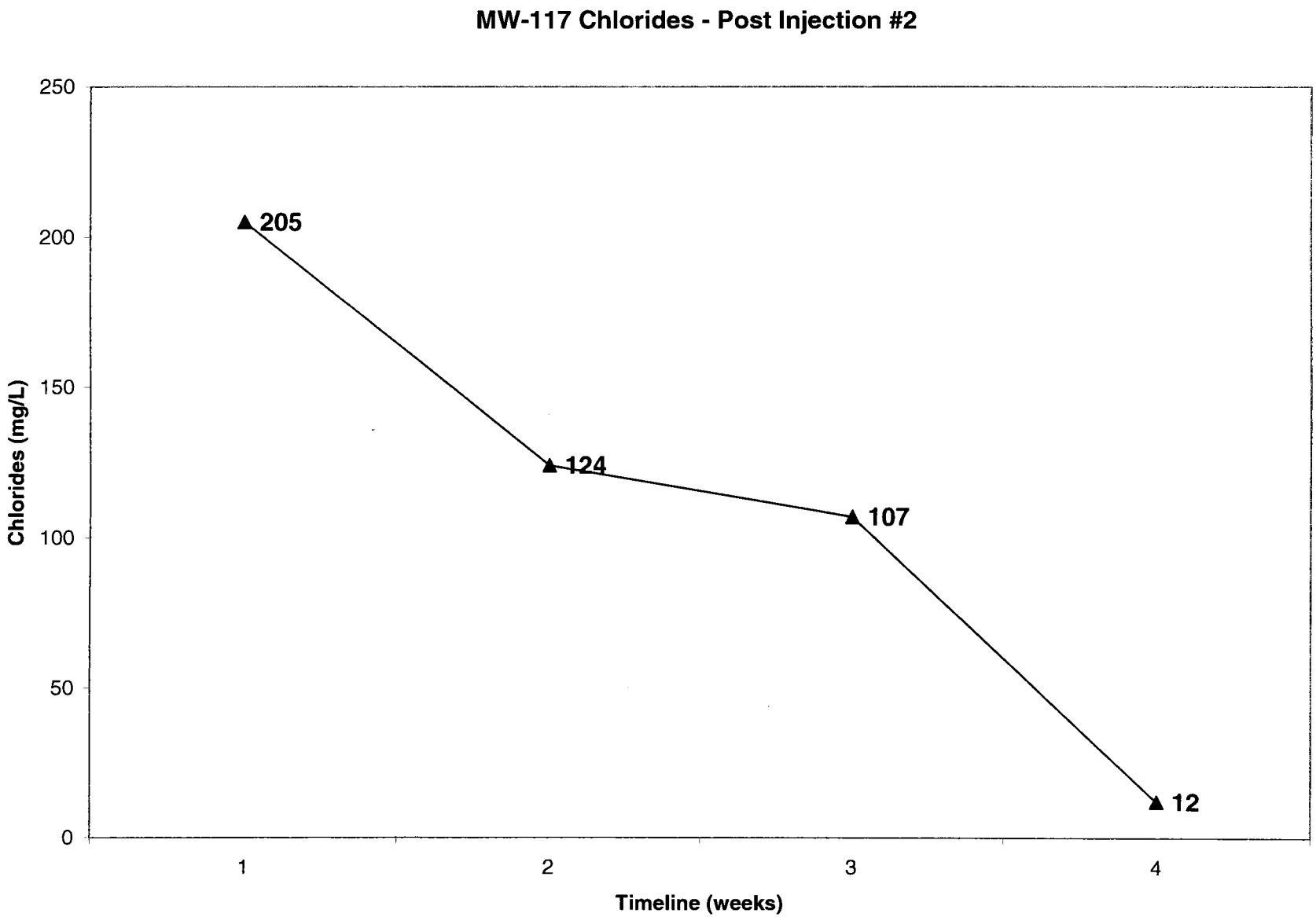
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.17	J
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.50	U
108-87-2	Methylcyclohexane	0.50	U

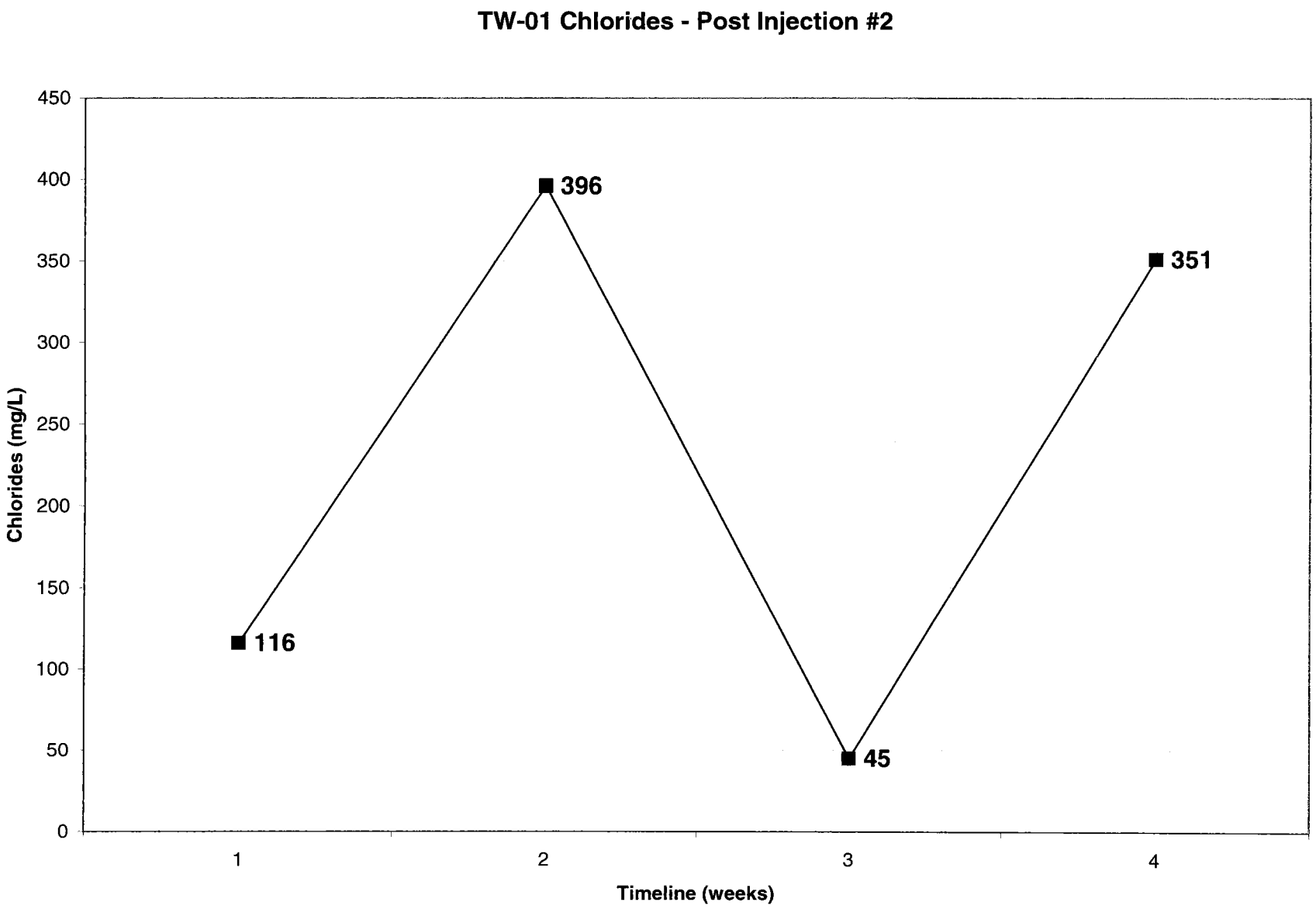
GROUNDWATER PILOT STUDY
LARC 60 SITE
FORT STORY, VIRGINIA

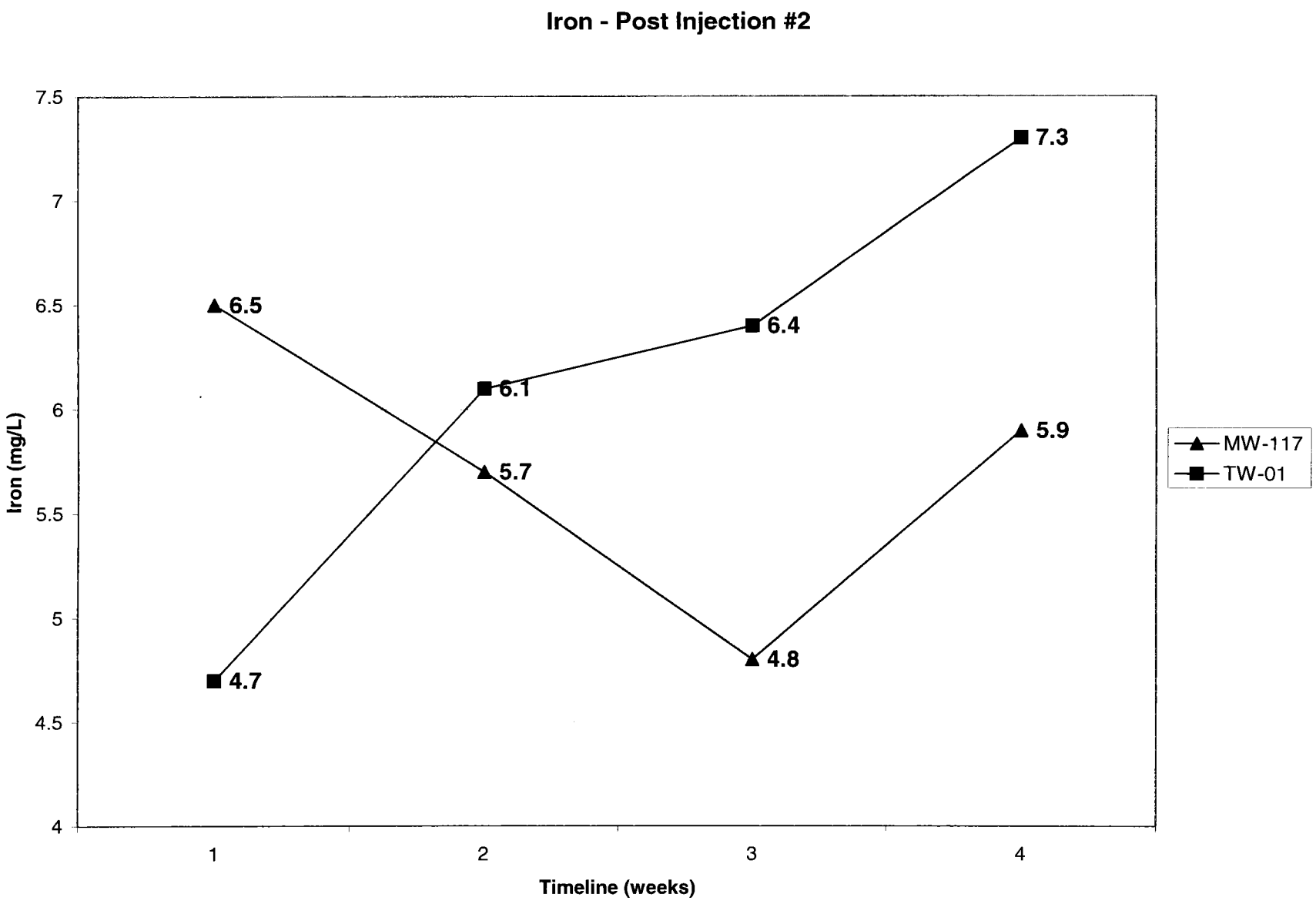

MW-117 Chlorides - Post Injection #1
Chlorides (mg/L)
12
11.5
11
10.5
10
9.5
9
8.5
8
1
2
3
4
5
6
Timeline (weeks)
8.99
11.4
11
9.84
9.46
11.7


TW-01 Chlorides - Post Injection #1
Chlorides (mg/L)
37.5
37
36.5
36
35.5
35
34.5
34
33.5
33
32.5
34.2
35
34.2
35.7
34.7
37
1
2
3
4
5
6
Timeline (weeks)


Iron - Post Injection #1
Iron (mg/L)
Timeline (weeks)
MW-117
TW-01
8.29
8.16
7.94
6.95
6.6
2.38
2.48
1.9
5.45
3.8
8.25
6.65


MW-117 Chlorides - Post Injection #2
250
200
150
100
50
0
Chlorides (mg/L)
205
124
107
12
1
2
3
4
Timeline (weeks)


TW-01 Chlorides - Post Injection #2
Chlorides (mg/L)
450
400
350
300
250
200
150
100
50
0
396
351
116
45
1
2
3
4
Timeline (weeks)


Iron - Post Injection #2
7.5
7
6.5
6
5.5
5
4.5
4
Iron (mg/L)
1
2
3
4
Timeline (weeks)
6.5
5.7
4.8
5.9
4.7
6.1
6.4
7.3
MW-117
TW-01

Appendix B
2003 and 2007 Groundwater Data

RI REPORT ADDENDUM
LARC 60 SITE
FORT STORY, VIRGINIA

COMPUCHEM

a division of Liberty Analytical Corp.

February 3, 2003

Tony Pace
MALCOLM PIRNIE
701 Town Center Drive
Suite 600
Newport News, VA 23606

Subject:
Report of Data Project: LARC 60 Quote #: Q2849 SDG #: S2849

Attn.: Tony Pace

Enclosed are the results of analytical work performed in accordance with the referenced account number.

This report covers sample(s) appearing on the attached listing.

Thank you for selecting CompuChem for your sample analysis. If you should have questions or require additional analytical services, please contact your representative at 1-800-833-5097.

Sincerely,

Rodney A Dawson

CompuChem
A Division of Liberty Analytical

Attachment

TOTAL NUMBER
OF PAGES 259

501 Madison Avenue ■ Cary, N.C. 27513 ■ Tel: 919-379-4100 ■ Fax: 919-379-4050

SAMPLENUM	CLIENTID	QUOTENUMREF	LOGINNUM	MATNUM	ACCTNUM	PROJECTNUM	RECEIVEDATE
S2849-4	GW-6MW-1	Q2849	S2849	WA	MALCOLM PIRNIE	LARC 60	1/22/03
S2849-3	GW-6MW-2	Q2849	S2849	WA	MALCOLM PIRNIE	LARC 60	1/22/03
S2849-1	GW-6MW-9	Q2849	S2849	WA	MALCOLM PIRNIE	LARC 60	1/22/03
S2849-2	GW-6MW-9D	Q2849	S2849	WA	MALCOLM PIRNIE	LARC 60	1/22/03
S2849-5	TRIPBLANK1-20	Q2849	S2849	WA	MALCOLM PIRNIE	LARC 60	1/22/03

CompuChem

a division of Liberty Analytical Corporation

Notification Regarding Manual Editing/Integration Flags

In some instances, manual adjustments to the software output are necessary to provide accurate data. These manual integrations are performed by the data reviewers, GC/MS operators, or GC chemists. An Extracted Ion Current Profile (EICP) or a GC chromatographic peak has been provided for the manual integration performed on each compound to demonstrate the accuracy of that process. The manual integrations are flagged on the quantitation report in the far right column beyond the FINAL concentration for GC/MS analysis, and in the "Flags" column for GC analysis. The manual editing/integration flags are:

M - Denotes that a manual integration has been performed for this compound. The manual integration was performed in order to provide the most accurate area count possible for the peak.

H - Denotes that a data reviewer, GC/MS operator, or GC Chemist has chosen an alternate peak within the retention time window from that chosen by the software for that compound. No manual integration is performed in choosing an alternate peak. The software still performs the integration.

MH - Denotes that an alternate peak has been chosen within the retention time window from that chosen by the software for that compound and also a manual integration of the chosen peak has been performed. The manual integration was performed in order to provide the most accurate area count possible for the peak.

L - Denotes that a data reviewer or GC/MS operator has selected an alternate library search. This is typically done when an additional tentatively identified compound (TIC) has been added to the number of peaks searched. No manual integration is performed in choosing an alternate peak. The software still performs the integration.

ML - Denotes that an alternate library search has been selected and a manual integration has also been performed. This is typically done when an additional TIC has been added and the TIC peak also required a manual integration.

The EPA CLP SOW documents require additional explanations for manual editing/integration. In the accompanying raw data packages, additional codes have been applied to the "M" flag and carry the following meanings;

M1 - The compound was initially not found by the automatic integration routine.

M2 - The compound was incorrectly integrated by the automatic integration routine.

M3 - The co-eluting compounds were incorrectly integrated by the automatic integration routine.

These codes will appear in the GC/MS and GC data packages.

Robert E. Meierer
Vice President

Revision 6 (03/25/02)

DATA REPORTING QUALIFIERS (continued)

C : This flag applies to GC or HPLC results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, this flag is not applied; a laboratory-defined flag is used instead (see the X/Y/Z qualifier.)

B : This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound. The combination of flags BU or UB is not an allowable policy. Blank contaminants are flagged with a B only when they are detected in the sample.

E : This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract will be diluted and reanalyzed. All such compounds with a response greater than the upper level of the calibration range will have the concentration flagged with an E on the Form I for the original analysis.

D : If a sample or extract is reanalyzed at a higher dilution factor, for example when the concentration of an analyte exceeds the upper calibration range, the DL suffix is appended to the sample number on the Form I for the more diluted sample, and **all** reported concentrations on that Form I are flagged with the D flag. This flag alerts data users that any discrepancies between the reported concentrations may be due to dilution of the sample or extract.

NOTE 1: The D flag is not applied to compounds that are not detected in the sample analysis i.e., compounds reported with the CRQL (or Reporting Limit) and the U flag.

NOTE 2: Separate Forms I are used for reporting the original analysis (Client Sample No. XXXXX) and the more diluted sample analysis (Client Sample No. XXXXXDL) i.e., the results from both analyses <u>are not combined</u> on a single Form I.

A : This flag indicates that a TIC is a suspected aldol-condensation product.

X/Y/Z : Other specific flags may be required to properly define the results. If used, the flags will be fully described in the SDG Narrative. The laboratory-defined flags are limited to X, Y and Z.

DATA REPORTING QUALIFIERS

On the Form I, under the column labeled "Q" for qualifier, each result is flagged with the specific data reporting qualifiers listed below, as appropriate. Up to five qualifiers may be reported on Form I for each compound. The qualifiers used are:

U : This flag indicates the compound was analyzed for but not detected. The Contract Required Quantitation Limit (CRQL), or reporting limit, will be adjusted to reflect any dilution and, for soils, the percent moisture.

J : This flag indicates an estimated value. The flag is used as detailed below:

1. When estimating a concentration for tentatively identified compounds (TICs) where a response factor of 1.0 is assumed for the TIC analyte,

2. When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero, and

3. When the retention time data indicate the presence of a compound that meets the pesticide/Aroclor or other GC or HPLC identification criteria, and the result is less than the CRQL (or Reporting Limit) but greater than zero. For example, if the CRQL (or Reporting Limit) is 10 µg/L, but a concentration of 3 µg/L is calculated, it is reported as 3J.

N : This flag indicates presumptive evidence of a compound. This flag is only used for TICs, where the identification is based on a mass spectral library search. For generic characterization of a TIC such as 'chlorinated hydrocarbon', the N flag is not used.

P : In the EPA's Contract Laboratory Program (CLP), this flag is used for a pesticide/Aroclor target analyte, when there is greater than a 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a P.
For SW-846 GC and HPLC analyses, when the Relative Percent Difference (RPD) is greater than 40% and there is no evidence of chromatographic anomalies or interferences, then the higher of the two values is reported and flagged with a P. When the RPD is equal to or less than 40%, our policy is to also report the higher of the two values, although the choice could be a project specific issue.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-1

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-4

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-4A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-15-0	Carbon disulfide	5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5	U
67-64-1	Acetone	4	J
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl-tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	0.4	JB
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-1

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-4

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-4A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (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
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropyl Benzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	0.3	J
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	0.3	JB
1330-20-7	Xylene (total)	5	U
79-20-9	Methyl acetate	5	U
110-82-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

GW-6MW-1

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-4

Sample wt/vol: 5 (g/ml) ML· Lab File ID: S2849-4A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT	16.20	37.65	JB
2.	LABORATORY ARTIFACT	17.38	22.52	JB
3.				
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-3

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-3A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-15-0	Carbon disulfide	5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5	U
67-64-1	Acetone	5	J
75-09-2	Methylene Chloride	0.3	J
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl-tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	0.1	J
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	0.5	JB
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-2

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-3

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-3A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (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
108-90-7	Chlorobenzene	0.3	J
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropyl Benzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	0.2	J
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
1330-20-7	Xylene (total)	5	U
79-20-9	Methyl acetate	5	U
110-82-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

GW-6MW-2

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-3

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-3A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT	16.20	31.99	JB
2.				
3.				
4.				
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-9

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-1

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-1A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-15-0	Carbon disulfide	5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5	U
67-64-1	Acetone	4	J
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl-tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	0.2	J
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	0.5	JB
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-9

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-1

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-1A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (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
108-90-7	Chlorobenzene	9	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropyl Benzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	0.5	JB
106-46-7	1,4-Dichlorobenzene	1	J
95-50-1	1,2-Dichlorobenzene	0.2	JB
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
1330-20-7	Xylene (total)	5	U
79-20-9	Methyl acetate	5	U
110-82-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

GW-6MW-9

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-1

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-1A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT	16.22	16.47	JB
2.				
3.				
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-9D

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-2

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-2A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-15-0	Carbon disulfide	5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5	U
67-64-1	Acetone	5	J
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl-tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	0.2	J
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	0.5	JB
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-9D

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-2

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-2A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (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
108-90-7	Chlorobenzene	9	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropyl Benzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	0.5	JB
106-46-7	1,4-Dichlorobenzene	1	J
95-50-1	1,2-Dichlorobenzene	0.2	JB
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
1330-20-7	Xylene (total)	5	U
79-20-9	Methyl acetate	5	U
110-82-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

GW-6MW-9D

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-2

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-2A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT	16.19	13.90	JB
2.	LABORATORY ARTIFACT	17.36	9.11	JB
3.				
4.				
5.				
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIPBLANK1-20

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-5

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-5A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-15-0	Carbon disulfide	5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5	U
67-64-1	Acetone	13	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl-tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	5	U
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	0.6	JB
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIPBLANK1-20

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-5

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-5A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (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
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropyl Benzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	0.4	JB
1330-20-7	Xylene (total)	5	U
79-20-9	Methyl acetate	5	U
110-82-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TRIPBLANK1-20

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: S2849-5

Sample wt/vol: 5 (g/ml) ML Lab File ID: S2849-5A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT	16.21	34.96	JB
2.	LABORATORY ARTIFACT	17.38	12.39	JB
3.				
4.				
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-1MS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: WG22566-6

Sample wt/vol: 5 (g/ml) ML Lab File ID: WG22566-6A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	47	
75-15-0	Carbon disulfide	5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5	U
67-64-1	Acetone	5	J
75-09-2	Methylene Chloride	0.2	J
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl-tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	50	
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	61	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	54	B
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-1MS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: WG22566-6

Sample wt/vol: 5 (g/ml) ML Lab File ID: WG22566-6A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (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
108-90-7	Chlorobenzene	54	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropyl Benzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	0.3	J
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	0.2	JB
1330-20-7	Xylene (total)	5	U
79-20-9	Methyl acetate	5	U
110-82-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-1MSD

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: WG22566-7

Sample wt/vol: 5 (g/ml) ML Lab File ID: WG22566-7A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	45	
75-15-0	Carbon disulfide	5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5	U
67-64-1	Acetone	5	J
75-09-2	Methylene Chloride	0.2	J
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl-tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	49	
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	60	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	52	B
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

GW-6MW-1MSD

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: WG22566-7

Sample wt/vol: 5 (g/ml) ML Lab File ID: WG22566-7A52

Level: (low/med) LOW Date Received: 01/22/03

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (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
108-90-7	Chlorobenzene	53	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropyl Benzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	0.3	J
95-50-1	1,2-Dichlorobenzene	5	U
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	0.2	JB
1330-20-7	Xylene (total)	5	U
79-20-9	Methyl acetate	2	J
110-82-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VTHLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: WG22566-4

Sample wt/vol: 5 (g/ml) ML Lab File ID: WG22566-4A52

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

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	5	U
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	48	
75-15-0	Carbon disulfide	5	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	5	U
67-64-1	Acetone	13	U
75-09-2	Methylene Chloride	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
1634-04-4	Methyl-tert-butyl ether	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
78-93-3	2-butanone	13	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
71-43-2	Benzene	51	
107-06-2	1,2-Dichloroethane	5	U
79-01-6	Trichloroethene	61	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	53	B
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
591-78-6	2-hexanone	13	U
124-48-1	Dibromochloromethane	5	U
106-93-4	1,2-Dibromoethane	5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VTHLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: S2849

Matrix: (soil/water) WATER Lab Sample ID: WG22566-4

Sample wt/vol: 5 (g/ml) ML Lab File ID: WG22566-4A52

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

% Moisture: not dec. _____ Date Analyzed: 01/29/03

GC Column: EQUITY624 ID: 0.53 (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
108-90-7	Chlorobenzene	52	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
98-82-8	Isopropyl Benzene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
541-73-1	1,3-Dichlorobenzene	0.3	JB
106-46-7	1,4-Dichlorobenzene	0.4	J
95-50-1	1,2-Dichlorobenzene	0.3	JB
96-12-8	1,2-Dibromo-3-Chloropropane	5	U
120-82-1	1,2,4-Trichlorobenzene	0.5	JB
1330-20-7	Xylene (total)	5	U
79-20-9	Methyl acetate	5	U
110-82-7	Cyclohexane	5	U
108-87-2	Methylcyclohexane	5	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-11

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309203

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309203B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	3.5	
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	4.3	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.18	JB
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-11

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309203

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309203B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.16	JB
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-11

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309203

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309203B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	13.28	0.53	JB
2.	LABORATORY ARTIFACT	14.33	0.53	J
3.				
4.				
5.				
6.				
7.				
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FORM I VOA-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-11

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309203

Sample wt/vol: 500 (g/mL) ML Lab File ID: 1309203JA64

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/02/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/04/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
90-12-0	1-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3S

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309201

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309201B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.11	J
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	3.8	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.88	
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.20	JB
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	1.9	
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.33	J
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3S

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309201

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309201B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.21	JB
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-3S

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309201

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309201B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	13.29	0.75	JB
2.	LABORATORY ARTIFACT	14.33	1.0	J
3.	UNKNOWN ALKANE	15.00	0.87	J
4.	UNKNOWN	15.28	1.1	J
5.	UNKNOWN	15.68	0.94	J
6.	UNKNOWN	16.08	0.69	J
7. 17057-82-8	1H-INDENE, 2,3-DIHYDRO-1,2-D	16.21	0.89	NJ
8.	UNKNOWN	16.58	1.5	J
9.	UNKNOWN ALKANE	16.73	1.7	J
10.	UNKNOWN	17.83	0.64	J
11.				
12.				
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FORM I VOA-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3S

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309201

Sample wt/vol: 500 (g/mL) ML Lab File ID: 1309201A64

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/02/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
90-12-0	1-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-5S

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309204

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309204B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.11	J
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	4.5	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.12	JB
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-5S

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309204

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309204B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.17	JB
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-5S

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309204

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309204B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	13.28	0.58	JB
2.				
3.				
4.				
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FORM I VOA-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-5S

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309204

Sample wt/vol: 500 (g/mL) ML Lab File ID: 1309204A64

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/02/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
90-12-0	1-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-5SDUP

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309205

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309205B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	4.4	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.15	JB
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-5SDUP

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309205

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309205B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.14	JB
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-5SDUP

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309205

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309205B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-5SDUP

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309205

Sample wt/vol: 500 (g/mL) ML Lab File ID: 1309205A64

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/02/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
90-12-0	1-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-7

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309207

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309207B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.0	JB
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.12	JB
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	1.3	
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-7

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309207

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309207B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.17	JB
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-7

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309207

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309207B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	13.28	0.57	JB
2.				
3.				
4.				
5.				
6.				
7.				
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FORM I VOA-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-7

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309207

Sample wt/vol: 500 (g/mL) ML Lab File ID: 1309207JA64

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/02/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/04/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
90-12-0	1-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-9

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309202

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309202B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.4	JB
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.24	JB
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-9

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309202

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309202B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.11	J
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.16	JB
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

6MW-9

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309202

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309202B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	14.30	1.4	J
2.					
3.					
4.					
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FORM I VOA-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-9

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309202

Sample wt/vol: 500 (g/mL) ML Lab File ID: 1309202A64

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/02/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	10	U
91-57-6	2-Methylnaphthalene	10	U
90-12-0	1-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-117

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309206

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309206B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.11	J
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	3.1	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.16	J
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	2.0	
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.19	JB
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	3.0	
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-117

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309206

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309206B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	1.4	
108-38-3	m,p-Xylene	6.2	
95-47-6	o-Xylene	5.8	
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	13	
110-82-7	Cyclohexane	0.51	B
108-87-2	Methylcyclohexane	8.1	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

MW-117

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309206

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309206B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 10

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	13.20	1.7	J
2.	622-96-8	BENZENE, 1-ETHYL-4-METHYL-	13.25	9.5	NJ
3.	611-14-3	BENZENE, 1-ETHYL-2-METHYL-	13.50	3.6	NJ
4.	526-73-8	BENZENE, 1,2,3-TRIMETHYL-	13.63	11	NJ
5.	1074-43-7	BENZENE, 1-METHYL-3-PROPYL-	14.15	3.3	NJ
6.		UNKNOWN	14.29	1.7	J
7.	99-87-6	BENZENE, 1-METHYL-4-(1-METHY	14.53	1.8	NJ
8.	95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	15.11	1.5	NJ
9.	767-58-8	INDAN, 1-METHYL-	15.67	1.4	NJ
10.	119-64-2	NAPHTHALENE, 1,2,3,4-TETRAHY	15.92	1.5	NJ
11.					
12.					
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FORM I VOA-TIC

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-117

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309206

Sample wt/vol: 500 (g/mL) ML Lab File ID: 1309206A64

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/02/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	5.3	J
91-57-6	2-Methylnaphthalene	5.1	J
90-12-0	1-Methylnaphthalene	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
86-73-7	Fluorene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIPBLANK

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309208

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309208B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	3.7	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.18	JB
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

TRIPBLANK

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309208

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309208B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.14	JB
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

TRIPBLANK

Lab Name: COMPUCHEM Contract: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 1309208

Sample wt/vol: 25 (g/ml) ML Lab File ID: 1309208B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	13.28	0.50	JB
2.	LABORATORY ARTIFACT	14.33	0.55	J
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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13.				
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FORM I VOA-TIC

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3SMS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 141383

Sample wt/vol: 25 (g/ml) ML Lab File ID: 141383B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.12	J
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.4	JB
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.88	
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.28	JB
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	1.8	
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.10	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.39	J
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3SMS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 141383

Sample wt/vol: 25 (g/ml) ML Lab File ID: 141383B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.21	JB
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3SMS

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 141433

Sample wt/vol: 500 (g/mL) ML Lab File ID: 141433JA64

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/02/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/04/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	31	
91-57-6	2-Methylnaphthalene	30	
90-12-0	1-Methylnaphthalene	30	
208-96-8	Acenaphthylene	37	
83-32-9	Acenaphthene	38	
86-73-7	Fluorene	39	
85-01-8	Phenanthrene	41	
120-12-7	Anthracene	49	
206-44-0	Fluoranthene	43	
129-00-0	Pyrene	54	
56-55-3	Benzo(a)anthracene	44	
218-01-9	Chrysene	49	
205-99-2	Benzo(b)fluoranthene	43	
207-08-9	Benzo(k)fluoranthene	47	
50-32-8	Benzo(a)pyrene	48	
193-39-5	Indeno(1,2,3-cd)pyrene	36	
53-70-3	Dibenzo(a,h)anthracene	40	
191-24-2	Benzo(g,h,i)perylene	38	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3SMSD

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 141384

Sample wt/vol: 25 (g/ml) ML Lab File ID: 141384B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl Chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
75-15-0	Carbon disulfide	0.50	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	0.50	U
67-64-1	Acetone	2.8	B
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl-tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.84	
78-93-3	2-butanone	2.5	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
56-23-5	Carbon Tetrachloride	0.50	U
71-43-2	Benzene	0.20	JB
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	1.8	
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	2.5	U
108-88-3	Toluene	0.11	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.33	J
591-78-6	2-hexanone	2.5	U
124-48-1	Dibromochloromethane	0.50	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3SMSD

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 141384

Sample wt/vol: 25 (g/ml) ML Lab File ID: 141384B73

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
108-38-3	m,p-Xylene	1.0	U
95-47-6	o-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropyl Benzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
1330-20-7	Xylene (total)	0.50	U
110-82-7	Cyclohexane	0.21	JB
108-87-2	Methylcyclohexane	0.50	U

FORM I VOA

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

6MW-3SMSD

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 141434

Sample wt/vol: 500 (g/mL) ML Lab File ID: 141434A64

Level: (low/med) LOW Date Received: 06/01/07

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/02/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	30	
91-57-6	2-Methylnaphthalene	32	
90-12-0	1-Methylnaphthalene	28	
208-96-8	Acenaphthylene	43	
83-32-9	Acenaphthene	44	
86-73-7	Fluorene	51	
85-01-8	Phenanthrene	54	
120-12-7	Anthracene	63	
206-44-0	Fluoranthene	56	
129-00-0	Pyrene	72	
56-55-3	Benzo(a)anthracene	58	
218-01-9	Chrysene	66	
205-99-2	Benzo(b)fluoranthene	53	
207-08-9	Benzo(k)fluoranthene	71	
50-32-8	Benzo(a)pyrene	66	
193-39-5	Indeno(1,2,3-cd)pyrene	55	
53-70-3	Dibenzo(a,h)anthracene	58	
191-24-2	Benzo(g,h,i)perylene	55	

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VKVLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 141380

Sample wt/vol: 25 (g/ml) ML Lab File ID: 141380B73

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

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifluoromethane	4.0	
74-87-3	Chloromethane	5.5	
75-01-4	Vinyl Chloride	6.0	
74-83-9	Bromomethane	5.6	
75-00-3	Chloroethane	6.3	
75-69-4	Trichlorofluoromethane	6.2	
75-35-4	1,1-Dichloroethene	5.4	
75-15-0	Carbon disulfide	5.7	
76-13-1	1,1,2-trichloro-1,2,2-triflu	5.8	
67-64-1	Acetone	16	B
79-20-9	Methyl acetate	5.2	
75-09-2	Methylene Chloride	5.1	
156-60-5	trans-1,2-Dichloroethene	4.5	
1634-04-4	Methyl-tert-butyl ether	3.7	
75-34-3	1,1-Dichloroethane	4.7	
156-59-2	cis-1,2-Dichloroethene	4.4	
78-93-3	2-butanone	17	
67-66-3	Chloroform	4.6	
71-55-6	1,1,1-Trichloroethane	4.7	
56-23-5	Carbon Tetrachloride	4.8	
71-43-2	Benzene	4.7	B
107-06-2	1,2-Dichloroethane	4.3	
79-01-6	Trichloroethene	4.4	
78-87-5	1,2-Dichloropropane	4.8	
75-27-4	Bromodichloromethane	4.4	
10061-01-5	cis-1,3-Dichloropropene	3.9	
108-10-1	4-Methyl-2-pentanone	21	
108-88-3	Toluene	4.7	
10061-02-6	trans-1,3-Dichloropropene	4.4	
79-00-5	1,1,2-Trichloroethane	4.3	
127-18-4	Tetrachloroethene	4.7	
591-78-6	2-hexanone	19	
124-48-1	Dibromochloromethane	4.3	

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VKVLCS

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 141380

Sample wt/vol: 25 (g/ml) ML Lab File ID: 141380B73

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

% Moisture: not dec. _____ Date Analyzed: 06/01/07

GC Column: SPB-624 ID: 0.32 (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
106-93-4	1,2-Dibromoethane	4.0	
108-90-7	Chlorobenzene	4.5	
100-41-4	Ethylbenzene	4.5	
108-38-3	m,p-Xylene	9.5	
95-47-6	o-Xylene	4.5	
100-42-5	Styrene	4.4	
75-25-2	Bromoform	4.4	
98-82-8	Isopropyl Benzene	4.4	
79-34-5	1,1,2,2-Tetrachloroethane	4.5	
541-73-1	1,3-Dichlorobenzene	4.5	
106-46-7	1,4-Dichlorobenzene	4.6	
95-50-1	1,2-Dichlorobenzene	4.4	
96-12-8	1,2-Dibromo-3-Chloropropane	4.7	
120-82-1	1,2,4-Trichlorobenzene	3.5	
1330-20-7	Xylene (total)	15	
110-82-7	Cyclohexane	3.7	B
108-87-2	Methylcyclohexane	4.4	

FORM I VOA

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

SLCSWZ

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: 13092

Matrix: (soil/water) WATER Lab Sample ID: 141432

Sample wt/vol: 500 (g/mL) ML Lab File ID: 141432A64

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted:06/02/07

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/02/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	Naphthalene	48	
91-57-6	2-Methylnaphthalene	51	
90-12-0	1-Methylnaphthalene	45	
208-96-8	Acenaphthylene	56	
83-32-9	Acenaphthene	58	
86-73-7	Fluorene	59	
85-01-8	Phenanthrene	60	
120-12-7	Anthracene	69	
206-44-0	Fluoranthene	63	
129-00-0	Pyrene	80	
56-55-3	Benzo(a)anthracene	66	
218-01-9	Chrysene	69	
205-99-2	Benzo(b)fluoranthene	60	
207-08-9	Benzo(k)fluoranthene	75	
50-32-8	Benzo(a)pyrene	71	
193-39-5	Indeno(1,2,3-cd)pyrene	54	
53-70-3	Dibenzo(a,h)anthracene	61	
191-24-2	Benzo(g,h,i)perylene	56	