# FINAL ANNUAL EFFECTIVENESS MONITORING REPORT No. 6
# FOR THE
# VESTAL WELL 1-1 TREATMENT FACILITY
# WORK ASSIGNMENT NUMBER: 109-RALR-0238

# PUMPHOUSE ROAD
# VESTAL, NEW YORK

**SUBMITTED SEPTEMBER 2003**

**FINALIZED MARCH 2004**



***Prepared By:***

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**Morris Plains, New Jersey 07950**

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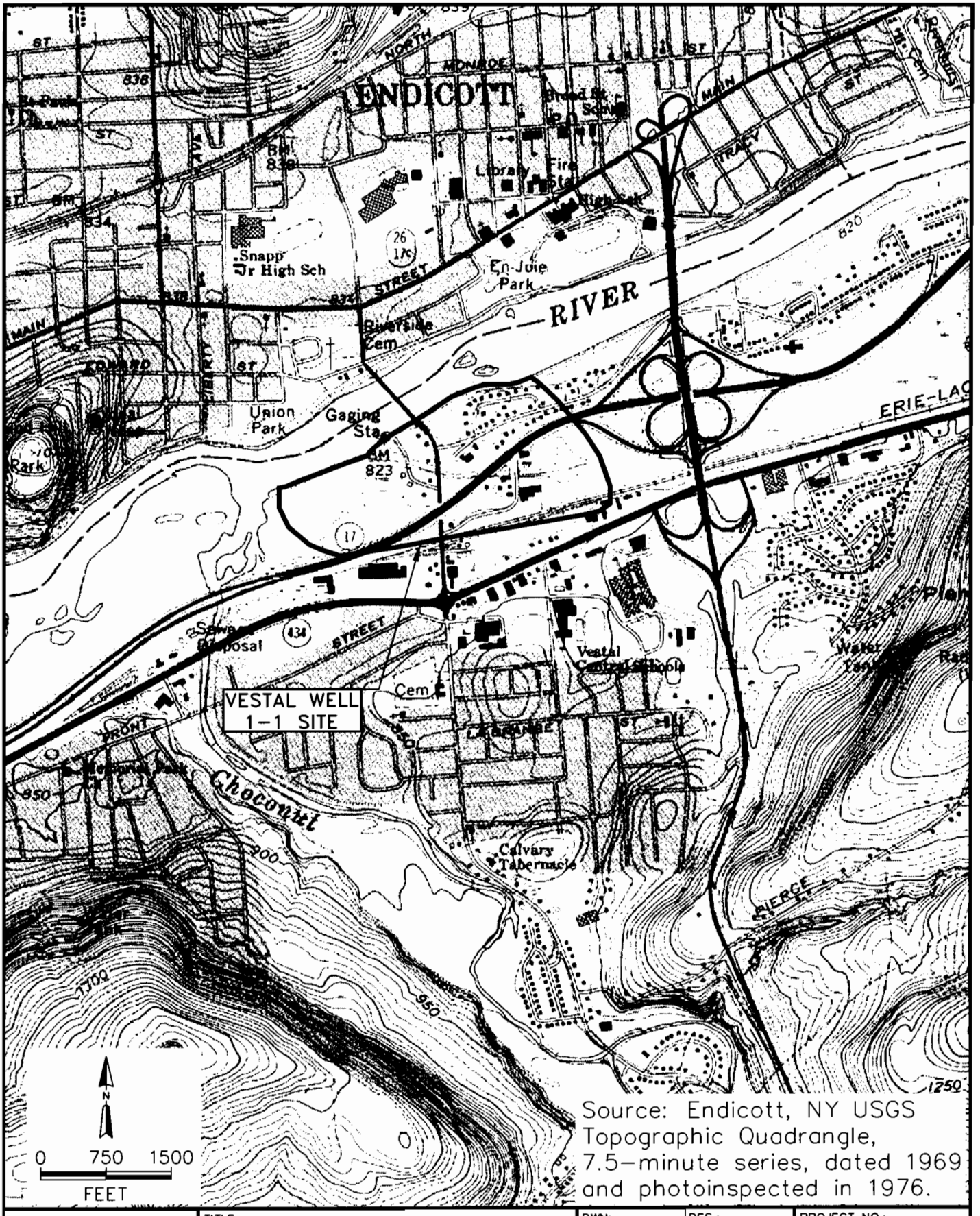
## 1.0 INTRODUCTION

The Town of Vestal is located in Broome County, New York, approximately five miles southwest of the City of Binghamton, on the south bank of the Susquehanna River. Figure 1-1 depicts the location of the Vestal Well 1-1 site. The Vestal Well 1-1 was one of three production wells (Wells 1-1, 1-2 and 1-3) providing drinking water to several water districts in the Vestal area. Well 1-1 was taken offline in 1980 because of contamination by volatile organic compounds (trichloroethene, 1,1-dichloroethene, 1,1-dichloroethane, 1,1,1-trichloroethane, and trans-1,2-dichloroethene). The construction of an air stripping facility for Well 1-1 was completed by the United States Environmental Protection Agency (USEPA) in early 1991 pursuant to the First Operable Unit (OU-1) Record of Decision (ROD) (USEPA, 1986). Due to problems with Well 1-1, the USEPA constructed a new (replacement) Well 1-1A to a depth of 135 feet below grade with a pumping capacity of 1,150 gallons per minute to ensure successful implementation of the remedy. In March 1995, the USEPA issued a Remedial Action Report, which determined that Well 1-1A and the associated air stripping facility were fully functional and operational as a potable water supply. However, the New York State Department of Environmental Conservation (NYSDEC), which had previously agreed through a cooperative agreement with the USEPA to provide Long-Term Response (LTR) for this facility, was unable to secure a contract with the Town of Vestal. In May 1995, the NYSDEC informed the USEPA that it no longer desired cooperative agreement funds to perform LTR. Therefore, the USEPA performs LTR to restore the groundwater aquifer and discharges the treated water to the Susquehanna River. The Town of Vestal does not use the treated water from Well 1-1A.

The OU-1 ROD also recommended that a Second Operable Unit (OU-2) Remedial Investigation/Feasibility Study (RI/FS) be undertaken to evaluate suspected contaminant source areas upgradient of Well 1-1. The USEPA initiated this RI/FS in November 1988. A Second (OU-2) ROD was signed on 28 September 1990, selecting *in situ* vacuum extraction as the remedy for two discrete areas of soil contamination, i.e., Area 2 and Area 4, located in the Stage Road Industrial Park. These are the predominant sources of contamination of Well 1-1.

USEPA completed remedial design activities for Area 2 in September 1994 and entered into an IAG with the U.S. Army Corps of Engineers to implement the Area 2 remedial action (RA). The U.S. Army Corps of Engineers started construction of the soil vacuum extraction (SVE) system in October 1996 and completed construction in January 1997. The Area 2 SVE system operation was terminated in November 2000, after the results of the Interim Soil Sampling Program confirmed that the SVE successfully achieved ROD cleanup goals. Construction of a SVE system in Area 4 was initiated on 1 April 2003. This system started operation on 28 June 2003 and is still operating. As of 8 September 2003, approximately 600 pounds of VOCs were removed.




Source: Endicott, NY USGS Topographic Quadrangle, 7.5-minute series, dated 1969 and photoinspected in 1976.

| | | | | |
|---|---|---|---|---|
| TETRA TECH FW, INC. | TITLE: Site Map<br>Vestal Well 1-1 Site<br>Vestal, New York | DWN: CTS | DES.: CTS | PROJECT NO.: 1945.2109.0700 |
| | | CHKD: CEM | APPD: HR | |
| | | DATE: 03/09/04 | REV.: 1 | FIGURE NO.: 1-1 |

N:\GIS\GISKEY\GISPROJ31\VESTAL-SURVEYED\FIGURE 1-1 030904.DWG

The monitoring for OU-1 LTR consists of both monthly treatment system performance monitoring and annual groundwater effectiveness monitoring. The performance monitoring criteria are designed to evaluate the performance of the treatment system and determine whether the treated water meets the requirements for discharge to the Susquehanna River (New York State Freshwater Groundwater [Class GA] Effluent Limitations). The effectiveness monitoring criteria are designed to assess the effectiveness of groundwater contamination plume capture by Well 1-1A and determine the progress of groundwater restoration with respect to the New York State Groundwater Quality Criteria (NYSGWQC).

Table 1-1 highlights the New York State Class GA Groundwater Effluent Limitations and the New York State Class GA Groundwater Quality Criteria for the site contaminants of concern (COCs).

**Table 1-1**

**NYS Groundwater Effluent Limitations and Groundwater Quality Criteria For the Site Contaminants of Concern**

| Constituent | NYS GA Groundwater Effluent Limitations (µg/L) | NYS GA Groundwater Quality Criteria (µg/L) |
|---|---|---|
| Chloroform | 7 | 7 |
| 1,1-dichloroethane | 5 | 5 |
| 1,1-dichloroethene | 5 | 5 |
| Trans-1,2-dichloroethene | 5 | 5 |
| 1,1,1-trichloroethane | 5 | 5 |
| Trichloroethene | 5 | 5 |
| Total Volatile Organics | 100 | 100 |
| Chromium | 100 | 50 |
| Copper | 1,000 | 200 |
| Lead | 50 | 25 |
| Mercury | 1.4 | 0.7 |
| Nickel | 200 | 100 |
| Zinc | 5,000 | 2,000 |

µg/L - micrograms per liter

This Effectiveness Monitoring Report No. 6 presents the results of the effectiveness monitoring sampling conducted during May 2003.

## 2.0 TECHNICAL APPROACH

### 2.1 Description of Sampling and Analysis Program Plan

The wells selected for performing the effectiveness monitoring sampling, as presented in the original ROD, are Wells S-1, S-2, S-6, S-7, S-8, S-11, EB-1, EB-31, EB-33, EB-41, EB-42, 1-22, 1-24, 1-29, and 1-29A (15 wells) as shown on Figure 2-1. Monitoring well EB-1 was not located and has been replaced by monitoring well 1-32A. In addition, a deep monitoring well (1-32) was installed at the same location. Therefore, a total of 16 groundwater monitoring wells were sampled during the May 2003 sampling event to evaluate the effectiveness of the remediation. Monitoring wells 1-23, 1-25, 1-25A, 1-30, and 1-30A have been located on the map to provide additional groundwater level data.

During each sampling round, groundwater purging operations and subsequent groundwater sample collection were conducted in accordance with the USEPA Region 2 Low Stress Method using adjustable-rate stainless-steel submersible pumps equipped with dedicated tubing. The stainless steel submersible pump, with polyethylene tubing and safety line was gently lowered into the well casing, to approximately the mid-point of the saturated screen level (target sampling zone). Following the installation of the pumping equipment, a water level measurement was recorded using an electronic water level indicator. These measurements were taken cautiously to the extent practicable, in order to cause minimum turbulence to the static water level. After the water level was recorded, groundwater in each monitoring well was purged. During the purging operations, the pump speed was adjusted to achieve minimal stabilized drawdown, to the extent practicable. In case the drawdown could not be stabilized, the pumping rate was reduced to the minimum allowed by the equipment. The groundwater purging was accompanied by the periodic (average of 3 to 6 minutes) measurement of the field indicator parameters including pH, temperature, specific conductivity, dissolved oxygen, turbidity, and oxidation-reduction potential (Eh) using a Horiba U-22 meter. Once the field parameters were considered to be stabilized within the limits specified in the USEPA's Low Stress Method, groundwater samples were collected from respective monitoring wells directly from the tubing into sampling vials/jars. The field log book notes, including the groundwater purging/sample data and field parameter results, are included in Appendix A.

Upon completion of sampling, the sampling jar/vials were placed in coolers with ice and maintained at 4° Celsius. Prior to overnight shipment of the sample to the analytical laboratory, sample labels were completed with sample identification number, project name/number, date, time and parameters and then placed on the sample jars/vials. The samples were wrapped with bubble wrap and placed in the coolers with the completed chain of custody and secured with shipping tape and tamper-proof labels.

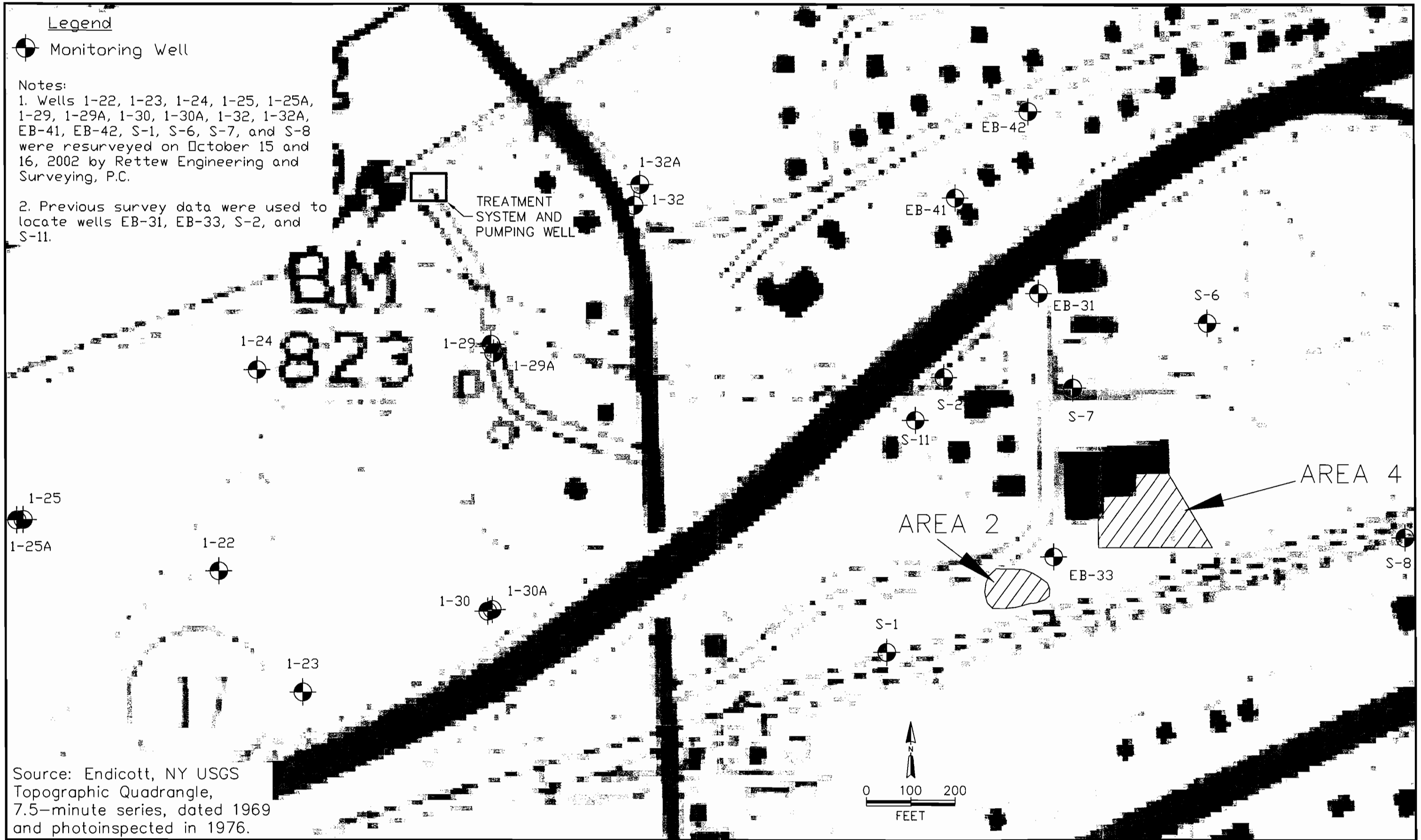
Groundwater samples from all wells sampled were analyzed for Target Compound List volatile organics for all wells. Target Analyte List metals were analyzed for Wells 1-22, 1-24, 1-29 and 1-29A to evaluate the effectiveness of groundwater cleanup. The sample collection, handling, shipping and analytical protocols are presented in Appendix A, Monitoring Plan of the O&M Manual TtFW, February 1996)

Legend

Monitoring Well

Notes:
1. Wells 1-22, 1-23, 1-24, 1-25, 1-25A, 1-29, 1-29A, 1-30, 1-30A, 1-32, 1-32A, EB-41, EB-42, S-1, S-6, S-7, and S-8 were resurveyed on October 15 and 16, 2002 by Rettew Engineering and Surveying, P.C.

2. Previous survey data were used to locate wells EB-31, EB-33, S-2, and S-11.




Source: Endicott, NY USGS Topographic Quadrangle, 7.5-minute series, dated 1969 and photoinspected in 1976.

TETRA TECH FW, INC.

TITLE:
Monitoring Well Locations
Vestal Well 1-1 Site
Vestal, New York

| | | | |
|---|---|---|---|
| DWN.: CTS | DATE: 03/09/04 | PROJECT NO.: 1945.2109.0700 | |
| CHKD: MJM | REV.: 1 | FIGURE NO.: 2-1 | |
| DES.: CTS | APPD: HR | | |

N:\GIS\GISKEY\GISPROJ31\VESTAL-SURVEYED\FIGURE 2-1 030904.DWG

## 2.2 Field Blank, Trip Blank and Duplicate Samples

Field blank, trip blank and duplicate samples were utilized to establish quality assurance of sampling methodology and laboratory analyses. A field blank sample consisting of distilled water poured through decontaminated field equipment was collected daily.

A trip blank sample, supplied by the laboratory, accompanied each shipment of samples to the laboratory.

A duplicate groundwater sample was collected from monitoring well 1-29 (VE-S-29-052003). The laboratory analyzed the sample for VOCs. The analyte concentrations reported for the duplicates demonstrated acceptable levels of measurement precision.

## 2.3 Sample Analysis and Data Validation

Groundwater samples were collected by Tetra Tech FW, Inc. (TtFW) from 16 groundwater monitoring wells (S-1, S-2, S-6, S-7, S-8, S-11, EB-31, EB-33, EB-41, EB-42, 1-22, 1-24, 1-29, 1-29A, 1-32, and 1-32A). The samples were shipped to the Ecology and Environment, Inc. for analysis. Data validation was performed by TtFW. The validation report is included in Appendix B. The laboratory data were evaluated according to USEPA Region 2 Functional Guidelines (SOW HW-6, Rev 8, CLP Organics Data Review and Preliminary Review, January, 1992).

The validation determined that the data in the report should be considered technically defensible and completely usable, except for those samples noted in the report.

# 3.0 EVALUATION OF SAMPLING RESULTS

## 3.1 Analytical Results

The groundwater sampling results from the May 2003 sampling event indicate several COCs above NYSGWQC standards at the site. The COCs exceeding NYSGWQC include 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1-dichloroethylene, cis-1,2-dichloroethylene, trichloroethylene, and vinyl chloride. Table 3-1 summarizes the detected compounds and site COCs and compares them to the NYSGWGC. Figure 3-1 presents the constituents detected above the NYSGWQC for each well sampled in May 2003. Figure 3-2 depicts the iso-concentration contours for total VOCs. Based on the May 2003 groundwater sampling, the current aerial extent of site COCs appears to originate in the area of Operable Units 2 and 4, and has migrated northwest toward the treatment system. The data indicates that contaminants have not impacted the wells adjacent to the Susquehanna River. The downgradient wells 1-22 and 1-24, which are the closest to the current Vestal water supply well, were detected with low VOC concentrations below the groundwater quality criteria. The validated raw analytical data are presented in Appendix B.

As Figure 3-1 illustrates, the highest concentrations of VOCs were detected in groundwater samples collected from the monitoring wells directly downgradient from Areas 2 and 4 (i.e., EB-33, S-2, S-7, and S-11). This indicates that these areas were the source of the groundwater contamination. Table 3-1 shows that site inorganic COCs chromium, copper, lead, mercury, nickel, and zinc concentrations were below the NYSGWQC. Iron and sodium concentrations exceeded the NYSGWQC in monitoring wells 1-22, 1-24, 1-29, and 1-29A; however, iron and sodium are not COCs.

The groundwater analytical results indicate that nearly all of the wells (EB-31, EB-33, 1-29,S-2, S-6, S-7, and S-11) detected with COC concentrations above the groundwater quality criteria are installed in the shallow groundwater zone. Well 1-29 is the only deep monitoring well detected with exceedances of the groundwater quality criteria for 1,1,1-trichloroethane, 1,1-dichloroethane, and cis-1,2-dichloroethylene.

A comparison of the total VOC concentrations at each monitoring well with the results of the initial and first through sixth annual effectiveness monitoring events is presented in Table 3-2. The total VOC concentrations at S-1, S-7, S-8, S-11, EB-31, EB-33, and EB-41 decreased from the previous year, total VOC concentrations at S-2, S-6, 1-29, and 1-29A increased from the previous year, and the total VOC concentrations in the other wells remained relatively the same. The total VOC concentrations and associated iso-concentration contours from the May 2003 effectiveness monitoring results are shown in Figure 3-2 as well as the 100 ug/L total VOC iso-concentration contour from 2002. Figure 3-3 presents the individual VOCs detected in each well in May 2003.

The decreasing concentrations of total VOCs and distribution of TCE daughter products indicate that natural attenuation is likely occurring in the downgradient monitoring wells. The distribution of daughter products present in the groundwater at the site are indicative of reductive dechlorinization processes. However, it must also be noted that reduction of VOC concentrations since the previous groundwater sampling event in October 2002 may be enhanced due to dilution from increased precipitation. During the October 2002 sampling event, the northeastern United States was at the end of a significant dry period which would result in lower groundwater elevations and less water

volume in the aquifer. Between October 2002 and May 2003, the region experienced significant precipitation events which increased the amount of storage within the aquifer and increased groundwater elevation. The additional water volume would dilute the VOC concentrations and reduce the concentrations of COCs when compared to results from previous sampling rounds. Overall, the results over the last seven years indicate that total VOCs have generally decreased across the site due to the groundwater extraction, reductive dechlorinization, and dilution. The overall configuration of the plume suggests that the slug of highest contamination is beginning to migrate toward the extraction wells.

*Field Blanks*

The laboratory analyzed four field blank samples (VE-FB-052003, VE-FB-052103, VE-FB-052203, and VE-FB-052303) for volatile organic compounds (VOCs) and one field blank sample (VE-FB-052003) for dissolved metals. Laboratory analysis of groundwater samples indicate concentrations of acetone, bromodichloromethane, bromoform, carbon disulfide, chloroform, chloromethane, cis-1,2-dichloroethylene, and trichloroethylene below groundwater quality criteria in the field blank samples. Aluminum, barium, calcium, chromium, cobalt, copper, iron, magnesium, manganese, nickel, potassium, sodium, and zinc were detected in the field blank samples at concentrations below groundwater quality criteria.

*Trip Blanks*

The laboratory analyzed four trip blank samples (VE-TB-052003, VE-TB-052103, VE-TB-052203, and VE-TB-052303) for VOCs. The laboratory analysis indicated concentrations detections of bromoform, chloromethane, methyl chloride, and toluene below groundwater quality criteria in the trip blank samples.

## 3.2 Field Parameter Measurement Results

Table 3-3 presents the field parameters measured during groundwater sampling activities. An evaluation of the groundwater field parameters for indications of natural attenuation of the VOCs will be performed in the 2004 Annual Effectiveness Report.

## 3.3 Groundwater Level Measurements

On 19 May 2003, TtFW personnel measured the depth to groundwater in 21 wells. Table 3-4 presents the depth to groundwater, well casing reference surveyed elevations, total depth of monitoring wells, and calculated groundwater elevations.

Figure 3-4 depicts the groundwater surface elevation map generated from the wells screened in the upper hydrostratigraphic unit. Monitoring wells 1-23, 1-24, 1-29, 1-30, and 1-32 are screened in the deeper hydrostratigraphic unit and are not used on the shallow groundwater surface elevation map. The shallow groundwater flow is northwest toward the Susquehanna River. The plume is flowing in the direction of shallow groundwater flow and is being captured by the downgradient pumping well.

A deep groundwater potentiometric surface map was created using the monitoring wells 1-22, 1-23, 1-24, 1-25, 1-29, 1-30, and 1-32 (Figure 3-5). The deep groundwater direction is flowing to the northeast toward the Susquehanna River and pumping well based on the limited data points in the current deep monitoring well network. The deep groundwater potentiometric surface has a generally low gradient with the exception of monitoring well 1-22 which is exhibiting mounding.

An evaluation of groundwater elevation measurements from the four well clusters indicates that vertical groundwater flow is generally from the shallow to deep groundwater zones in well clusters 1-29 and 1-29A and 1-30 and 1-30A. The well cluster, 1-25 and 1-25A has an upward groundwater flow. The 1-32 and 1-32A well cluster indicates a very strong upward flow which is due to the groundwater mounding in the deep well 1-32.

The mounding in well 1-32 is likely the result of artificial recharge to the well. During the May 2003 monitoring event, field personnel noted that the well cap for 1-32 was not securely fastened. It is possible that the mounding is the result of surface runoff entering the monitoring well at the surface. In order to verify the temporary nature of the mounding, measurements were collected from 1-32 and 1-32A in December 2003. The difference in groundwater elevations between monitoring wells 1-32 and 1-32A was approximately 0.5 feet, rather than the over 12 foot difference noted in May 2003. Therefore, the mounding noted in monitoring well 1-32 was a temporary condition likely due to the well cap.

### 3.4 Plant Operations and Sampling

Table 3-5 presents information on plant pumping rates and sample results since the last Annual Effectiveness Monitoring performed in September 2002. An evaluation of the plant operations and sampling including apparent data trends will be performed in the 2004 Annual Effectiveness Report.

## Table 3-1 (Sheet 1 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | 1-22<br>VE-1-22-052003<br>05/20/2003<br>ug/l | 1-24<br>VE-1-24-052003<br>05/20/2003<br>ug/l | 1-29<br>VE-1-29-052003<br>05/20/2003<br>ug/l | 1-29<br>VE-S-29-052003<br>05/20/2003<br>ug/l |
|---|---|---|---|---|---|---|
| **Constituents** | | | | | | |
| 1,1,1-Trichloroethane | 5 | 200 | ND | 4.39 | **80.6D** | **60.1D** |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | NS | ND | 0.118J | 3.89 | 3.81 |
| 1,1,2-Trichloroethane | 1 | 5 | ND | ND | ND | ND |
| 1,1-Dichloroethane | 5 | NS | ND | 0.91 | **8.85** | **8.66** |
| 1,1-Dichloroethylene | 5 | 7 | ND | ND | **6.21** | **6.22** |
| Benzene | 1 | 5 | 0.536 | ND | ND | 0.132J |
| Bromodichloromethane | 50 | 80 | ND | ND | ND | ND |
| Bromoform | 50 | 80 | ND | ND | ND | ND |
| Carbon disulfide | NS | NS | ND | ND | ND | ND |
| Chloroethane | 5 | NS | ND | ND | ND | ND |
| Chloroform | 7 | 80 | ND | ND | ND | ND |
| Chloromethane | 5 | NS | 0.336BJ | ND | ND | ND |
| cis-1,2-Dichloroethylene | 5 | 70 | ND | 1.19 | **58.6D** | **50.3D** |
| Dibromochloromethane | 50 | 80 | ND | ND | ND | ND |
| Dichlorodifluoromethane | NS | NS | ND | ND | ND | ND |
| Ethylbenzene | 5 | 700 | ND | ND | ND | ND |
| Isopropylbenzene | NS | NS | ND | ND | ND | ND |
| Methyl tert-butyl ether | NS | NS | ND | ND | 0.182J | 0.19J |
| Methylene chloride | 5 | 5 | ND | ND | ND | ND |
| Tetrachloroethene | 5 | 5 | ND | ND | ND | ND |
| Toluene | 5 | 1000 | 0.965 | ND | 0.179J | 0.148J |
| trans-1,2-Dichloroethylene | 5 | 100 | ND | ND | 0.242J | 0.18J |
| Trichloroethene | 5 | 5 | ND | ND | **41.5D** | **33.4D** |
| Vinyl chloride | 2 | 2 | ND | ND | ND | ND |
| Xylene (Total) | 5 | 10000 | ND | ND | ND | ND |
| Aluminum | NS | NS | 108B | 46.6B | 127B | 139B |
| Arsenic | 25 | 0.4 | 8.1B | ND | 8.3B | 8.1B |
| Barium | 1000 | 5500 | 11B | 7.7B | 51.3B | 50.2B |
| Beryllium | 3 | 160 | ND | 0.26B | ND | ND |
| Calcium | NS | NS | 59700 | 53300 | 115000 | 115000 |
| Chromium | 50 | 230 | R | R | R | R |

## Table 3-1 (Sheet 2 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | 1-22<br>VE-1-22-052003<br>05/20/2003<br>ug/l | 1-24<br>VE-1-24-052003<br>05/20/2003<br>ug/l | 1-29<br>VE-1-29-052003<br>05/20/2003<br>ug/l | 1-29<br>VE-S-29-052003<br>05/20/2003<br>ug/l |
|---|---|---|---|---|---|---|
| **Constituents** | | | | | | |
| Cobalt | NS | NS | 1.5B | 0.96B | 4.3B | 4.6B |
| Copper | 200 | NS | 3.3B | 2.6B | 2.4B | 3.5B |
| Iron | 300 | NS | **9630EJ** | R | **5740EJ** | **6870EJ** |
| Lead | 25 | 400 | ND | ND | 5J | 11.9J |
| Magnesium | 35000 | NS | 80.2B | 8420 | 19100 | 19000 |
| Manganese | 300 | NS | 65.6 | 16.9 | 44.1 | 48 |
| Mercury | 0.7 | 23 | 0.11B | ND | ND | ND |
| Nickel | 100 | 1600 | 7.4B | ND | 4.7B | 4.5B |
| Potassium | NS | NS | 4220B | 1130B | 1600B | 1650B |
| Selenium | 10 | 390 | ND | ND | R | R |
| Sodium | 20000 | NS | **24700** | **23100** | **67000** | **66300** |
| Zinc | 2000 | 23000 | 16B | 25.5 | 9B | 11.1B |

Notes:

ND - Non-detect

NA - Not analyzed

NS - No Standard

J - Estimated

B (organics) - Found in blank

B (inorganics) - Concentration is greater than the instrument detection limit but less than the contract required detection limit

D - Dilution

R - Rejected

E - Estimated due to interference

ug/l - microgram per liter

BOLD - Exceeds New York Groundwater Quality Criteria

## Table 3-1 (Sheet 3 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | 1-29A<br>VE-1-29A-052003<br>05/20/2003<br>ug/l | 1-32<br>VE-1-32R-052203<br>05/22/2003<br>ug/l | 1-32A<br>VE-1-32AR-052203<br>05/22/2003<br>ug/l |
|---|---|---|---|---|---|
| **Constituents** | | | | | |
| 1,1,1-Trichloroethane | 5 | 200 | **9.93** | ND | ND |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | NS | 0.888 | ND | ND |
| 1,1,2-Trichloroethane | 1 | 5 | ND | ND | ND |
| 1,1-Dichloroethane | 5 | NS | **9.45** | ND | ND |
| 1,1-Dichloroethylene | 5 | 7 | 2.26 | ND | ND |
| Benzene | 1 | 5 | ND | ND | ND |
| Bromodichloromethane | 50 | 80 | ND | ND | ND |
| Bromoform | 50 | 80 | ND | ND | ND |
| Carbon disulfide | NS | NS | ND | 0.578 | ND |
| Chloroethane | 5 | NS | ND | ND | ND |
| Chloroform | 7 | 80 | ND | ND | 0.144J |
| Chloromethane | 5 | NS | ND | ND | ND |
| cis-1,2-Dichloroethylene | 5 | 70 | **22.4** | ND | ND |
| Dibromochloromethane | 50 | 80 | ND | ND | ND |
| Dichlorodifluoromethane | NS | NS | ND | ND | ND |
| Ethylbenzene | 5 | 700 | ND | ND | ND |
| Isopropylbenzene | NS | NS | ND | ND | ND |
| Methyl tert-butyl ether | NS | NS | ND | ND | ND |
| Methylene chloride | 5 | 5 | ND | ND | ND |
| Tetrachloroethene | 5 | 5 | ND | ND | ND |
| Toluene | 5 | 1000 | ND | ND | ND |
| trans-1,2-Dichloroethylene | 5 | 100 | 0.132J | ND | ND |
| Trichloroethene | 5 | 5 | 4.12 | ND | ND |
| Vinyl chloride | 2 | 2 | ND | ND | ND |
| Xylene (Total) | 5 | 10000 | ND | ND | ND |
| Aluminum | NS | NS | ND | NA | NA |
| Arsenic | 25 | 0.4 | 7.7B | NA | NA |
| Barium | 1000 | 5500 | 41.9B | NA | NA |
| Beryllium | 3 | 160 | ND | NA | NA |
| Calcium | NS | NS | 108000 | NA | NA |
| Chromium | 50 | 230 | R | NA | NA |

## Table 3-1 (Sheet 4 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | 1-29A<br>VE-1-29A-052003<br>05/20/2003<br>ug/l | 1-32<br>VE-1-32R-052203<br>05/22/2003<br>ug/l | 1-32A<br>VE-1-32AR-052203<br>05/22/2003<br>ug/l |
|---|---|---|---|---|---|
| **Constituents** | | | | | |
| Cobalt | NS | NS | ND | NA | NA |
| Copper | 200 | NS | 2B | NA | NA |
| Iron | 300 | NS | **1840EJ** | NA | NA |
| Lead | 25 | 400 | ND | NA | NA |
| Magnesium | 35000 | NS | 19400 | NA | NA |
| Manganese | 300 | NS | **348** | NA | NA |
| Mercury | 0.7 | 23 | ND | NA | NA |
| Nickel | 100 | 1600 | 1.9B | NA | NA |
| Potassium | NS | NS | 1600B | NA | NA |
| Selenium | 10 | 390 | R | NA | NA |
| Sodium | 20000 | NS | **68000** | NA | NA |
| Zinc | 2000 | 23000 | 4.8B | NA | NA |

Notes:

ND - Non-detect

NA - Not analyzed

NS - No Standard

J - Estimated

B (organics) - Found in blank

B (inorganics) - Concentration is greater than the instrument detection limit but less than the contract required detection limit

D - Dilution

R - Rejected

E - Estimated due to interference

ug/l - microgram per liter

BOLD - Exceeds New York Groundwater Quality Criteria

## Table 3-1 (Sheet 5 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | EB-31<br>VE-EB-31-052103<br>05/21/2003<br>ug/l | EB-33<br>VE-EB-33-052103<br>05/21/2003<br>ug/l | EB-41<br>VE-EB-41-052103<br>05/21/2003<br>ug/l | EB-42<br>VE-EB-42-052103<br>05/21/2003<br>ug/l |
|---|---|---|---|---|---|---|
| **Constituents** | | | | | | |
| 1,1,1-Trichloroethane | 5 | 200 | 0.316J | 0.85 | ND | 0.77 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | NS | 0.522 | 23 | ND | ND |
| 1,1,2-Trichloroethane | 1 | 5 | ND | ND | ND | ND |
| 1,1-Dichloroethane | 5 | NS | 4.02 | **5.1** | 0.349J | ND |
| 1,1-Dichloroethylene | 5 | 7 | 1.95 | ND | ND | ND |
| Benzene | 1 | 5 | ND | ND | ND | ND |
| Bromodichloromethane | 50 | 80 | ND | ND | ND | 0.1J |
| Bromoform | 50 | 80 | ND | ND | ND | ND |
| Carbon disulfide | NS | NS | ND | ND | ND | ND |
| Chloroethane | 5 | NS | ND | ND | ND | ND |
| Chloroform | 7 | 80 | ND | ND | ND | ND |
| Chloromethane | 5 | NS | ND | ND | ND | ND |
| cis-1,2-Dichloroethylene | 5 | 70 | **8.2** | **120D** | 4.94 | ND |
| Dibromochloromethane | 50 | 80 | 0.628J | 0.607J | 0.509J | 0.575J |
| Dichlorodifluoromethane | NS | NS | ND | 0.376J | ND | ND |
| Ethylbenzene | 5 | 700 | ND | 0.406J | ND | ND |
| Isopropylbenzene | NS | NS | ND | 0.444J | ND | ND |
| Methyl tert-butyl ether | NS | NS | ND | ND | 1.76 | ND |
| Methylene chloride | 5 | 5 | ND | ND | ND | ND |
| Tetrachloroethene | 5 | 5 | ND | 0.531 | ND | ND |
| Toluene | 5 | 1000 | ND | ND | ND | ND |
| trans-1,2-Dichloroethylene | 5 | 100 | 0.311J | 2.13 | ND | ND |
| Trichloroethene | 5 | 5 | **44.9D** | **8.16** | 0.86 | ND |
| Vinyl chloride | 2 | 2 | 0.655 | **14.6** | ND | ND |
| Xylene (Total) | 5 | 10000 | ND | 0.112J | ND | ND |
| Aluminum | NS | NS | NA | NA | NA | NA |
| Arsenic | 25 | 0.4 | NA | NA | NA | NA |
| Barium | 1000 | 5500 | NA | NA | NA | NA |
| Beryllium | 3 | 160 | NA | NA | NA | NA |
| Calcium | NS | NS | NA | NA | NA | NA |
| Chromium | 50 | 230 | NA | NA | NA | NA |

## Table 3-1 (Sheet 6 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | EB-31<br>VE-EB-31-052103<br>05/21/2003<br>ug/l | EB-33<br>VE-EB-33-052103<br>05/21/2003<br>ug/l | EB-41<br>VE-EB-41-052103<br>05/21/2003<br>ug/l | EB-42<br>VE-EB-42-052103<br>05/21/2003<br>ug/l |
|---|---|---|---|---|---|---|
| **Constituents** | | | | | | |
| Cobalt | NS | NS | NA | NA | NA | NA |
| Copper | 200 | NS | NA | NA | NA | NA |
| Iron | 300 | NS | NA | NA | NA | NA |
| Lead | 25 | 400 | NA | NA | NA | NA |
| Magnesium | 35000 | NS | NA | NA | NA | NA |
| Manganese | 300 | NS | NA | NA | NA | NA |
| Mercury | 0.7 | 23 | NA | NA | NA | NA |
| Nickel | 100 | 1600 | NA | NA | NA | NA |
| Potassium | NS | NS | NA | NA | NA | NA |
| Selenium | 10 | 390 | NA | NA | NA | NA |
| Sodium | 20000 | NS | NA | NA | NA | NA |
| Zinc | 2000 | 23000 | NA | NA | NA | NA |

Notes:

ND - Non-detect

NA - Not analyzed

NS - No Standard

J - Estimated

B (organics) - Found in blank

B (inorganics) - Concentration is greater than the instrument detection limit but less than the contract required detection limit

D - Dilution

R - Rejected

E - Estimated due to interference

ug/l - microgram per liter

BOLD - Exceeds New York Groundwater Quality Criteria

## Table 3-1 (Sheet 7 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | S-1<br>VE-S-1-052303<br>05/23/2003<br>ug/l | S-2<br>VE-S-2-052203<br>05/22/2003<br>ug/l | S-6<br>VE-S-6-052203<br>05/22/2003<br>ug/l | S-7<br>VE-S-7-052303<br>05/23/2003<br>ug/l |
|---|---|---|---|---|---|---|
| **Constituents** | | | | | | |
| 1,1,1-Trichloroethane | 5 | 200 | ND | **57.9D** | ND | **135D** |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | NS | ND | 20.9D | 0.352J | 0.183J |
| 1,1,2-Trichloroethane | 1 | 5 | ND | ND | ND | ND |
| 1,1-Dichloroethane | 5 | NS | ND | **85.5D** | 0.426J | **39.3D** |
| 1,1-Dichloroethylene | 5 | 7 | ND | **24.3** | ND | **8.27** |
| Benzene | 1 | 5 | ND | 0.993 | ND | 0.147J |
| Bromodichloromethane | 50 | 80 | ND | ND | ND | ND |
| Bromoform | 50 | 80 | ND | ND | ND | ND |
| Carbon disulfide | NS | NS | ND | ND | ND | ND |
| Chloroethane | 5 | NS | ND | ND | ND | ND |
| Chloroform | 7 | 80 | ND | ND | ND | ND |
| Chloromethane | 5 | NS | ND | ND | ND | ND |
| cis-1,2-Dichloroethylene | 5 | 70 | 0.171J | **320D** | **23D** | **38.4D** |
| Dibromochloromethane | 50 | 80 | ND | ND | 0.31J | ND |
| Dichlorodifluoromethane | NS | NS | ND | 0.692 | ND | ND |
| Ethylbenzene | 5 | 700 | ND | 0.113J | ND | ND |
| Isopropylbenzene | NS | NS | ND | 0.342J | ND | ND |
| Methyl tert-butyl ether | NS | NS | 2.36 | 0.946 | ND | ND |
| Methylene chloride | 5 | 5 | ND | ND | ND | ND |
| Tetrachloroethene | 5 | 5 | ND | ND | ND | ND |
| Toluene | 5 | 1000 | ND | 2.36 | ND | 0.281J |
| trans-1,2-Dichloroethylene | 5 | 100 | ND | 1.83J | ND | 0.769 |
| Trichloroethene | 5 | 5 | 0.356J | **34D** | **53.8D** | **23.7** |
| Vinyl chloride | 2 | 2 | ND | **191D** | 0.475J | **40.3D** |
| Xylene (Total) | 5 | 10000 | ND | 0.308J | ND | 0.139J |
| Aluminum | NS | NS | NA | NA | NA | NA |
| Arsenic | 25 | 0.4 | NA | NA | NA | NA |
| Barium | 1000 | 5500 | NA | NA | NA | NA |
| Beryllium | 3 | 160 | NA | NA | NA | NA |
| Calcium | NS | NS | NA | NA | NA | NA |
| Chromium | 50 | 230 | NA | NA | NA | NA |

## Table 3-1 (Sheet 8 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | S-1<br>VE-S-1-052303<br>05/23/2003<br>ug/l | S-2<br>VE-S-2-052203<br>05/22/2003<br>ug/l | S-6<br>VE-S-6-052203<br>05/22/2003<br>ug/l | S-7<br>VE-S-7-052303<br>05/23/2003<br>ug/l |
|---|---|---|---|---|---|---|
| **Constituents** | | | | | | |
| Cobalt | NS | NS | NA | NA | NA | NA |
| Copper | 200 | NS | NA | NA | NA | NA |
| Iron | 300 | NS | NA | NA | NA | NA |
| Lead | 25 | 400 | NA | NA | NA | NA |
| Magnesium | 35000 | NS | NA | NA | NA | NA |
| Manganese | 300 | NS | NA | NA | NA | NA |
| Mercury | 0.7 | 23 | NA | NA | NA | NA |
| Nickel | 100 | 1600 | NA | NA | NA | NA |
| Potassium | NS | NS | NA | NA | NA | NA |
| Selenium | 10 | 390 | NA | NA | NA | NA |
| Sodium | 20000 | NS | NA | NA | NA | NA |
| Zinc | 2000 | 23000 | NA | NA | NA | NA |

Notes:

ND - Non-detect

NA - Not analyzed

NS - No Standard

J - Estimated

B (organics) - Found in blank

B (inorganics) - Concentration is greater than the instrument detection limit but less than the contract required detection limit

D - Dilution

R - Rejected

E - Estimated due to interference

ug/l - microgram per liter

BOLD - Exceeds New York Groundwater Quality Criteria

## Table 3-1 (Sheet 9 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | S-8<br>VE-S-8-052203<br>05/22/2003<br>ug/l | S-11<br>VE-S-11-052103<br>05/21/2003<br>ug/l | Field Blank<br>VE-FB-052003<br>305226<br>ug/l | Field Blank<br>VE-FB-052103<br>05/22/2003<br>ug/l |
|---|---|---|---|---|---|---|
| **Constituents** | | | | | | |
| 1,1,1-Trichloroethane | 5 | 200 | ND | **77.4D** | ND | ND |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | NS | ND | 21.7 | ND | ND |
| 1,1,2-Trichloroethane | 1 | 5 | ND | 0.171J | ND | ND |
| 1,1-Dichloroethane | 5 | NS | ND | **21.1J** | ND | ND |
| 1,1-Dichloroethylene | 5 | 7 | ND | ND | ND | ND |
| Benzene | 1 | 5 | ND | ND | ND | ND |
| Bromodichloromethane | 50 | 80 | ND | 0.12J | 0.115 | ND |
| Bromoform | 50 | 80 | ND | ND | 4.4 | 4.3 |
| Carbon disulfide | NS | NS | ND | ND | ND | ND |
| Chloroethane | 5 | NS | ND | 1.27 | ND | ND |
| Chloroform | 7 | 80 | 0.116J | 0.369J | 0.456 | ND |
| Chloromethane | 5 | NS | ND | ND | 0.273 | 0.284 |
| cis-1,2-Dichloroethylene | 5 | 70 | ND | **167D** | ND | 0.114 |
| Dibromochloromethane | 50 | 80 | ND | 0.529J | 0.41 | ND |
| Dichlorodifluoromethane | NS | NS | ND | 0.453J | ND | ND |
| Ethylbenzene | 5 | 700 | ND | ND | ND | ND |
| Isopropylbenzene | NS | NS | ND | ND | ND | ND |
| Methyl tert-butyl ether | NS | NS | ND | 0.891 | ND | ND |
| Methylene chloride | 5 | 5 | ND | ND | ND | ND |
| Tetrachloroethene | 5 | 5 | ND | 1.02 | ND | ND |
| Toluene | 5 | 1000 | ND | ND | ND | ND |
| trans-1,2-Dichloroethylene | 5 | 100 | ND | 1.69 | ND | ND |
| Trichloroethene | 5 | 5 | ND | **98D** | ND | 0.136 |
| Vinyl chloride | 2 | 2 | ND | **2.24** | ND | ND |
| Xylene (Total) | 5 | 10000 | ND | ND | ND | ND |
| Aluminum | NS | NS | NA | NA | 47.9 | NA |
| Arsenic | 25 | 0.4 | NA | NA | ND | NA |
| Barium | 1000 | 5500 | NA | NA | 1.1 | NA |
| Beryllium | 3 | 160 | NA | NA | ND | NA |
| Calcium | NS | NS | NA | NA | 435 | NA |
| Chromium | 50 | 230 | NA | NA | 11.5 | NA |

## Table 3-1 (Sheet 10 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | S-8<br>VE-S-8-052203<br>05/22/2003<br>ug/l | S-11<br>VE-S-11-052103<br>05/21/2003<br>ug/l | Field Blank<br>VE-FB-052003<br>305226<br>ug/l | Field Blank<br>VE-FB-052103<br>05/22/2003<br>ug/l |
|---|---|---|---|---|---|---|
| **Constituents** | | | | | | |
| Cobalt | NS | NS | NA | NA | 4.5 | NA |
| Copper | 200 | NS | NA | NA | 3.4 | NA |
| Iron | 300 | NS | NA | NA | 293 | NA |
| Lead | 25 | 400 | NA | NA | ND | NA |
| Magnesium | 35000 | NS | NA | NA | 84.1 | NA |
| Manganese | 300 | NS | NA | NA | 4.2 | NA |
| Mercury | 0.7 | 23 | NA | NA | ND | NA |
| Nickel | 100 | 1600 | NA | NA | 7.2 | NA |
| Potassium | NS | NS | NA | NA | 252 | NA |
| Selenium | 10 | 390 | NA | NA | ND | NA |
| Sodium | 20000 | NS | NA | NA | 1340 | NA |
| Zinc | 2000 | 23000 | NA | NA | 14.8 | NA |

Notes:

ND - Non-detect

NA - Not analyzed

NS - No Standard

J - Estimated

B (organics) - Found in blank

B (inorganics) - Concentration is greater than the instrument detection limit but less than the contract required detection limit

D - Dilution

R - Rejected

E - Estimated due to interference

ug/l - microgram per liter

BOLD - Exceeds New York Groundwater Quality Criteria

## Table 3-1 (Sheet 11 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | Field Blank VE-FB-052203 05/23/2003 ug/l | Field Blank VE-FB-052303 05/24/2003 ug/l | Trip Blank VE-TB-052003 05/21/2003 ug/l | Trip Blank VE-TB-052103 05/22/2003 ug/l |
|---|---|---|---|---|---|---|
| **Constituents** | | | | | | |
| 1,1,1-Trichloroethane | 5 | 200 | ND | ND | ND | ND |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | NS | ND | ND | ND | ND |
| 1,1,2-Trichloroethane | 1 | 5 | ND | ND | ND | ND |
| 1,1-Dichloroethane | 5 | NS | ND | ND | ND | ND |
| 1,1-Dichloroethylene | 5 | 7 | ND | ND | ND | ND |
| Benzene | 1 | 5 | ND | ND | ND | ND |
| Bromodichloromethane | 50 | 80 | ND | ND | ND | ND |
| Bromoform | 50 | 80 | 4.34 | 4.44 | 4.06 | 4.3 |
| Carbon disulfide | NS | NS | ND | ND | ND | ND |
| Chloroethane | 5 | NS | ND | ND | ND | ND |
| Chloroform | 7 | 80 | ND | ND | 0.294 | ND |
| Chloromethane | 5 | NS | 0.239 | 0.253 | 0.296 | 0.318 |
| cis-1,2-Dichloroethylene | 5 | 70 | ND | ND | ND | ND |
| Dibromochloromethane | 50 | 80 | ND | ND | ND | ND |
| Dichlorodifluoromethane | NS | NS | ND | ND | ND | ND |
| Ethylbenzene | 5 | 700 | ND | ND | ND | ND |
| Isopropylbenzene | NS | NS | ND | ND | ND | ND |
| Methyl tert-butyl ether | NS | NS | ND | ND | ND | ND |
| Methylene chloride | 5 | 5 | ND | ND | 0.138 | 0.114 |
| Tetrachloroethene | 5 | 5 | ND | ND | ND | ND |
| Toluene | 5 | 1000 | ND | ND | ND | 0.139 |
| trans-1,2-Dichloroethylene | 5 | 100 | ND | ND | ND | ND |
| Trichloroethene | 5 | 5 | ND | ND | ND | ND |
| Vinyl chloride | 2 | 2 | ND | ND | ND | ND |
| Xylene (Total) | 5 | 10000 | ND | ND | ND | ND |
| Aluminum | NS | NS | NA | NA | NA | NA |
| Arsenic | 25 | 0.4 | NA | NA | NA | NA |
| Barium | 1000 | 5500 | NA | NA | NA | NA |
| Beryllium | 3 | 160 | NA | NA | NA | NA |
| Calcium | NS | NS | NA | NA | NA | NA |
| Chromium | 50 | 230 | NA | NA | NA | NA |

## Table 3-1 (Sheet 12 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | Field Blank<br>VE-FB-052203<br>05/23/2003<br>ug/l | Field Blank<br>VE-FB-052303<br>05/24/2003<br>ug/l | Trip Blank<br>VE-TB-052003<br>05/21/2003<br>ug/l | Trip Blank<br>VE-TB-052103<br>05/22/2003<br>ug/l |
|---|---|---|---|---|---|---|
| **Constituents** | | | | | | |
| Cobalt | NS | NS | NA | NA | NA | NA |
| Copper | 200 | NS | NA | NA | NA | NA |
| Iron | 300 | NS | NA | NA | NA | NA |
| Lead | 25 | 400 | NA | NA | NA | NA |
| Magnesium | 35000 | NS | NA | NA | NA | NA |
| Manganese | 300 | NS | NA | NA | NA | NA |
| Mercury | 0.7 | 23 | NA | NA | NA | NA |
| Nickel | 100 | 1600 | NA | NA | NA | NA |
| Potassium | NS | NS | NA | NA | NA | NA |
| Selenium | 10 | 390 | NA | NA | NA | NA |
| Sodium | 20000 | NS | NA | NA | NA | NA |
| Zinc | 2000 | 23000 | NA | NA | NA | NA |

Notes:

ND - Non-detect

NA - Not analyzed

NS - No Standard

J - Estimated

B (organics) - Found in blank

B (inorganics) - Concentration is greater than the instrument detection limit but less than the contract required detection limit

D - Dilution

R - Rejected

E - Estimated due to interference

ug/l - microgram per liter

BOLD - Exceeds New York Groundwater Quality Criteria

## Table 3-1 (Sheet 13 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York Groundwater Quality Criteria | EPA Drinking Water Regulations (MCLs) | Trip Blank VE-TB-052203 05/23/2003 ug/l | Trip Blank VE-TB-052303 05/24/2003 ug/l |
|---|---|---|---|---|
| **Constituents** | | | | |
| 1,1,1-Trichloroethane | 5 | 200 | ND | ND |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | NS | ND | ND |
| 1,1,2-Trichloroethane | 1 | 5 | ND | ND |
| 1,1-Dichloroethane | 5 | NS | ND | ND |
| 1,1-Dichloroethylene | 5 | 7 | ND | ND |
| Benzene | 1 | 5 | ND | ND |
| Bromodichloromethane | 50 | 80 | ND | ND |
| Bromoform | 50 | 80 | 4.11 | 4.42 |
| Carbon disulfide | NS | NS | ND | ND |
| Chloroethane | 5 | NS | ND | ND |
| Chloroform | 7 | 80 | ND | ND |
| Chloromethane | 5 | NS | 0.281 | 0.258 |
| cis-1,2-Dichloroethylene | 5 | 70 | ND | ND |
| Dibromochloromethane | 50 | 80 | ND | ND |
| Dichlorodifluoromethane | NS | NS | ND | ND |
| Ethylbenzene | 5 | 700 | ND | ND |
| Isopropylbenzene | NS | NS | ND | ND |
| Methyl tert-butyl ether | NS | NS | ND | ND |
| Methylene chloride | 5 | 5 | 0.112 | 0.118 |
| Tetrachloroethene | 5 | 5 | ND | ND |
| Toluene | 5 | 1000 | 0.142 | 0.122 |
| trans-1,2-Dichloroethylene | 5 | 100 | ND | ND |
| Trichloroethene | 5 | 5 | ND | ND |
| Vinyl chloride | 2 | 2 | ND | ND |
| Xylene (Total) | 5 | 10000 | ND | ND |
| Aluminum | NS | NS | NA | NA |
| Arsenic | 25 | 0.4 | NA | NA |
| Barium | 1000 | 5500 | NA | NA |
| Beryllium | 3 | 160 | NA | NA |
| Calcium | NS | NS | NA | NA |
| Chromium | 50 | 230 | NA | NA |

## Table 3-1 (Sheet 14 of 14)
## Comparison of Detected Compounds to NYS GA Groundwater Quality Criteria

| Sample Location<br>Sample ID<br>Sample Date<br>Units | New York<br>Groundwater<br>Quality<br>Criteria | EPA<br>Drinking Water<br>Regulations<br>(MCLs) | Trip Blank<br>VE-TB-052203<br>05/23/2003<br>ug/l | Trip Blank<br>VE-TB-052303<br>05/24/2003<br>ug/l |
|---|---|---|---|---|
| **Constituents** | | | | |
| Cobalt | NS | NS | NA | NA |
| Copper | 200 | NS | NA | NA |
| Iron | 300 | NS | NA | NA |
| Lead | 25 | 400 | NA | NA |
| Magnesium | 35000 | NS | NA | NA |
| Manganese | 300 | NS | NA | NA |
| Mercury | 0.7 | 23 | NA | NA |
| Nickel | 100 | 1600 | NA | NA |
| Potassium | NS | NS | NA | NA |
| Selenium | 10 | 390 | NA | NA |
| Sodium | 20000 | NS | NA | NA |
| Zinc | 2000 | 23000 | NA | NA |

Notes:

ND - Non-detect

NA - Not analyzed

NS - No Standard

J - Estimated

B (organics) - Found in blank

B (inorganics) - Concentration is greater than the instrument detection limit but less than the contract required detection limit

D - Dilution

R - Rejected

E - Estimated due to interference

ug/l - microgram per liter

BOLD - Exceeds New York Groundwater Quality Criteria

## Table 3-2

## Total VOC Concentrations

| Monitoring Well Identification | November 1996 (initial) | November 1997 (first) | June 1999 (second) | June 2000 (third) | June 2001 (fourth) | October 2002 (fifth) | May 2003 (sixth) |
|---|---|---|---|---|---|---|---|
| Well S-1 | NS | NS | NS | NS | NS | 22.26 | 2.9 |
| Well S-2 | 1572.5 | 504.9* | 994 | 1472 | 807 | 533.68 | 741 |
| Well S-6 | NS | NS | NS | NS | NS | 55.35* | 78 |
| Well S-7 | 380 | 561.22 | NS | NS | NS | 1445.3 | 286 |
| Well S-8 | ND | NS | NS | NS | NS | 35.5 | 0.1 |
| Well S-11 | 5131 | 441.7 | 383 | 4154 | 417 | 467.9 | 394 |
| Well EB-31 | 128.5 | 106 | 67 | 79 | 81 | 97.62 | 62 |
| Well EB-33 | 2384.4 | 1285.23 | 1321 | 833 | 552 | 355.35 | 176 |
| Well EB-41 | ND | 4.6 | 6 | 6 | 8 | 31.2 | 8.4 |
| Well EB-42 | 2 | 1 | ND | 1 | ND | ND | 1.5 |
| Well 1-22 | NS | NS | NS | NS | NS | ND | 1.8 |
| Well 1-23 | NS | 1 | ND | ND | ND | NS | NS |
| Well 1-24 | 3.6 | 8.33 | 4 | 9 | 5 | ND | 6.6 |
| Well 1-29 | 963 | 249.3 | 217* | 58.5* | NS | 175.7 | 200 |
| Well 1-29A | 30 | 97.4 | 69 | NS | 51 | 43.86 | 49 |
| Well 1-30 | ND | 1 | ND | ND | ND | NS | NS |
| Well 1-28 | NS | NS | NS | NS | ND | NS | NS |
| Well 1-28A | NS | NS | NS | NS | ND | NS | NS |
| Well 1-32 | NS | NS | NS | NS | NS | ND | 0.6 |
| Well 1-32A | NS | NS | NS | NS | NS | ND | 0.1 |
| Total VOCs | 9220 | 2351.76 | 2775 | 6554 | 1870 | 1485.75 | 1389.5 |

(initial) – indicates annual effectiveness report
NS – Not Sampled
* -Average of duplicate data
ND – Not Detected
Monitoring Wells 1-23, 1-30, 1-28, and 1-28A were not sampled in October 2002 and May 2003 because they are not required to be sampled by the ROD.
Total VOCs are calculated using the results of monitoring wells S-2, S-11, EB-31, EB-33, EB-41, EB-42, and 1-24.

## Table 3-3
## Field Parameter Measurements

| Monitoring Well ID | S-1 | S-2 | S-6 | S-7 | S-8 | S-11 | EB-31 | EB-33 | EB-41 | EB-42 | 1-22 | 1-24 | 1-29 | 1-29A | 1-32R | 1-32AR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | |
| **Final Field Parameter Meas.** | | | | | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | 0.20 | 0.13 | 0.00 | 0.03 | 1.22 | 0.90 | 2.09 | 0.38 | 0.83 | 6.94 | 0.36 | 0.90 | 1.06 | 0.03 | 0.08 | 0.43 |
| ORP (mv) | -33 | -29 | -141 | -100 | -122 | -49 | 93 | -90 | 32 | 58 | -199 | -125 | -66 | -164 | -132 | 44 |
| pH (SU) | 6.89 | 5.89 | 6.73 | 6.56 | 6.95 | 6.91 | 6.71 | 7.01 | 6.44 | 6.78 | 11.89 | 9.16 | 7.64 | 774 | 7.02 | 6.04 |
| Temperature (°C) | 14.11 | 15.25 | 15.22 | 15.42 | 15.07 | 15.24 | 13.25 | 13.60 | 13.87 | 14.22 | 12.85 | 14.0 | 12.26 | 13.96 | 12.80 | 16.86 |
| Conductivity (mS/cm) | 1.23 | 9.35 | 1.62 | 1.16 | 0.937 | 1.34 | 1.13 | 1.18 | 1.68 | 1.69 | 0.716 | 0.382 | 0.941 | 0.926 | 1.53 | 0.524 |
| Turbidity (NTU) | 24.9 | 40.5 | 14.9 | 47.9 | 15 | 35.6 | 61.5 | 29.4 | 54.7 | 39.2 | 66.5 | -3.4 | 47.9 | 30.4 | 72 | 50 |

## Table 3-4
## Well Elevation Data

| Monitoring Well Identification | Elevation of Monitoring Well Reference Point (feet msl) | Total Depth of Monitoring Well (feet) | Depth to Groundwater (feet) | Groundwater Elevation (feet msl) |
|---|---|---|---|---|
| 1-22* | 817.61 | 132 | 11.60 | 806.01 |
| 1-23 | 820.91 | 136 | 16.38 | 804.53 |
| 1-24* | 826.76 | 129 | 23.37 | 804.39 |
| 1-25 | 827.02 | 155 | 22.38 | 804.64 |
| 1-25A | 826.92 | 49 | 22.43 | 804.49 |
| 1-29* | 823.55 | 119 | 19.59 | 803.96 |
| 1-29A* | 824.03 | 64 | 20.02 | 804.01 |
| 1-30 | 816.54 | 114 | 11.87 | 804.67 |
| 1-30A** | 816.42 | 30 | 11.09 | 805.33 |
| 1-32A** | 830.86 | 35 | 26.75 | 804.11 |
| 1-32** | 831.08 | 152 | 14.66 | 816.42 |
| EB-31* | 825.77 | 53 | 18.07 | 807.70 |
| EB-33* | 828.59 | 35 | 18.20 | 810.39 |
| EB-41* | 825.38 | 28 | 19.17 | 806.21 |
| EB-42* | 831.54 | 29 | 25.15 | 806.39 |
| S-1* | 827.16 | 25 | 18.02 | 809.14 |
| S-2* | 824.73 | 32 | 17.71 | 807.02 |
| S-6* | 822.46 | 41 | 11.29 | 811.17 |
| S-7* | 823.72 | 32 | 16.02 | 807.70 |
| S-8* | 832.2 | 25 | 7.22 | 824.98 |
| S-11* | 822.78 | 40 | 16.19 | 806.59 |

Qualifiers:
* - Part of the original monitoring well network in the ROD
** - Replaced monitoring well
msl – Mean Sea Level

## Table 3-5
## Plant Operation & Sampling Data

| | Pump Rate | Operational Days | Gallons Treated (million gallons) | Total VOC Influent Concentration (ug/l) |
|---|---|---|---|---|
| Oct 2002 | - | 0 | - | - |
| Nov 2002 | - | 0 | - | - |
| Dec 2002 | - | 0 | - | - |
| Jan 2003 | 76% | 29 | 36.5 | 454.9 |
| Feb 2003 | 76% | 28 | 36.0 | 319.2 |
| March 2003 | 60% | 31 | 30.3 | 271.7 |
| April 2003 | 59% | 30 | 29.3 | 204.9 |
| May 2003 | 56% | 31 | 25.0 | 222.1 |

| 1-29 CONSTITUENT | VE-1-29-052003 05/20/2003 ug/l | VE-S-29-052003 05/20/2003 ug/l |
|---|---|---|
| 1,1,1-Trichloroethane | 80.6 | 60.1 |
| 1,1-Dichloroethane | 8.85 | 8.66 |
| 1,1-Dichloroethylene | 6.21 | 6.22 |
| cis-1,2-Dichloroethylene | 58.6 | 50.3 |
| Trichloroethylene | 41.5 | 33.4 |
| Iron | 5740 | 6870 |
| Sodium | 67000 | 66300 |

| 1-29A CONSTITUENT | VE-1-29A-052003 05/20/2003 ug/l |
|---|---|
| 1,1,1-Trichloroethane | 9.93 |
| 1,1-Dichloroethane | 9.45 |
| cis-1,2-Dichloroethylene | 22.4 |
| Iron | 1840 |
| Sodium | 68000 |

| S-2 CONSTITUENT | VE-S-2-052203 05/22/2003 ug/l |
|---|---|
| 1,1,1-Trichloroethane | 57.9 |
| 1,1-Dichloroethane | 85.5 |
| 1,1-Dichloroethylene | 24.3 |
| cis-1,2-Dichloroethylene | 320 |
| Trichloroethylene | 34 |
| Vinyl chloride | 191 |

| EB-31 CONSTITUENT | VE-EB-31-052103 05/21/2003 ug/l |
|---|---|
| cis-1,2-Dichloroethylene | 8.2 |
| Trichloroethylene | 44.9 |

| 1-24 CONSTITUENT | VE-1-24-052003 05/20/2003 ug/l |
|---|---|
| Sodium | 23100 |

| S-6 CONSTITUENT | VE-S-6-052203 05/22/2003 ug/l |
|---|---|
| cis-1,2-Dichloroethylene | 23 |
| Trichloroethylene | 53.8 |

| S-7 CONSTITUENT | VE-S-7-052303 05/23/2003 ug/l |
|---|---|
| 1,1,1-Trichloroethane | 135 |
| 1,1-Dichloroethane | 39.3 |
| 1,1-Dichloroethylene | 8.27 |
| cis-1,2-Dichloroethylene | 38.4 |
| Trichloroethylene | 23.7 |
| Vinyl chloride | 40.3 |

| 1-22 CONSTITUENT | VE-1-22-052003 05/20/2003 ug/l |
|---|---|
| Iron | 9630 |
| Sodium | 24700 |

| S-11 CONSTITUENT | VE-S-11-052103 05/21/2003 ug/l |
|---|---|
| 1,1,1-Trichloroethane | 77.4 |
| 1,1-Dichloroethane | 21.1 |
| cis-1,2-Dichloroethylene | 167 |
| Trichloroethylene | 98 |
| Vinyl chloride | 2.24 |

| EB-33 CONSTITUENT | VE-EB-33-052103 05/21/2003 ug/l |
|---|---|
| 1,1-Dichloroethane | 5.1 |
| cis-1,2-Dichloroethylene | 120 |
| Trichloroethylene | 8.16 |
| Vinyl chloride | 14.6 |

TREATMENT SYSTEM AND PUMPING WELL

1-32A
1-32
EB-42
EB-41
EB-31
S-6
1-24
1-29
1-29A
S-2
S-11
S-7
1-25
1-25A
1-22
1-30
1-30A
EB-33
S-8
S-1
1-23

Legend

Monitoring Well

Notes:
1. Wells 1-22, 1-23, 1-24, 1-25, 1-25A, 1-29, 1-29A, 1-30, 1-30A, 1-32, 1-32A, EB-41, EB-42, S-1, S-6, S-7, and S-8 were resurveyed on October 15 and 16, 2002 by Rettew Engineering and Surveying, P.C.

2. Previous survey data were used to locate wells EB-31, EB-33, S-2, and S-11.

Source: Endicott, NY USGS Topographic Quadrangle, 7.5-minute series, dated 1969 and photoinspected in 1976.

N

150 300

FEET

TETRA TECH FW, INC.

TITLE:
Constituents Detected Above New York Groundwater Quality Standards
Vestal Well 1-1 Site
Vestal, New York

| DWN.: CTS | DATE: 03/09/04 | PROJECT NO.: 1945.2109.0700 |
|---|---|---|
| CHKD: MJM | REV.: 1 | FIGURE NO.: 3-1 |
| DES.: CTS | APPD: HR | |

N:\GIS\GISKEY\GISPROJ31\VESTAL-SURVEYED\FIGURE 3-1 030904.DWG

Legend

Monitoring Well

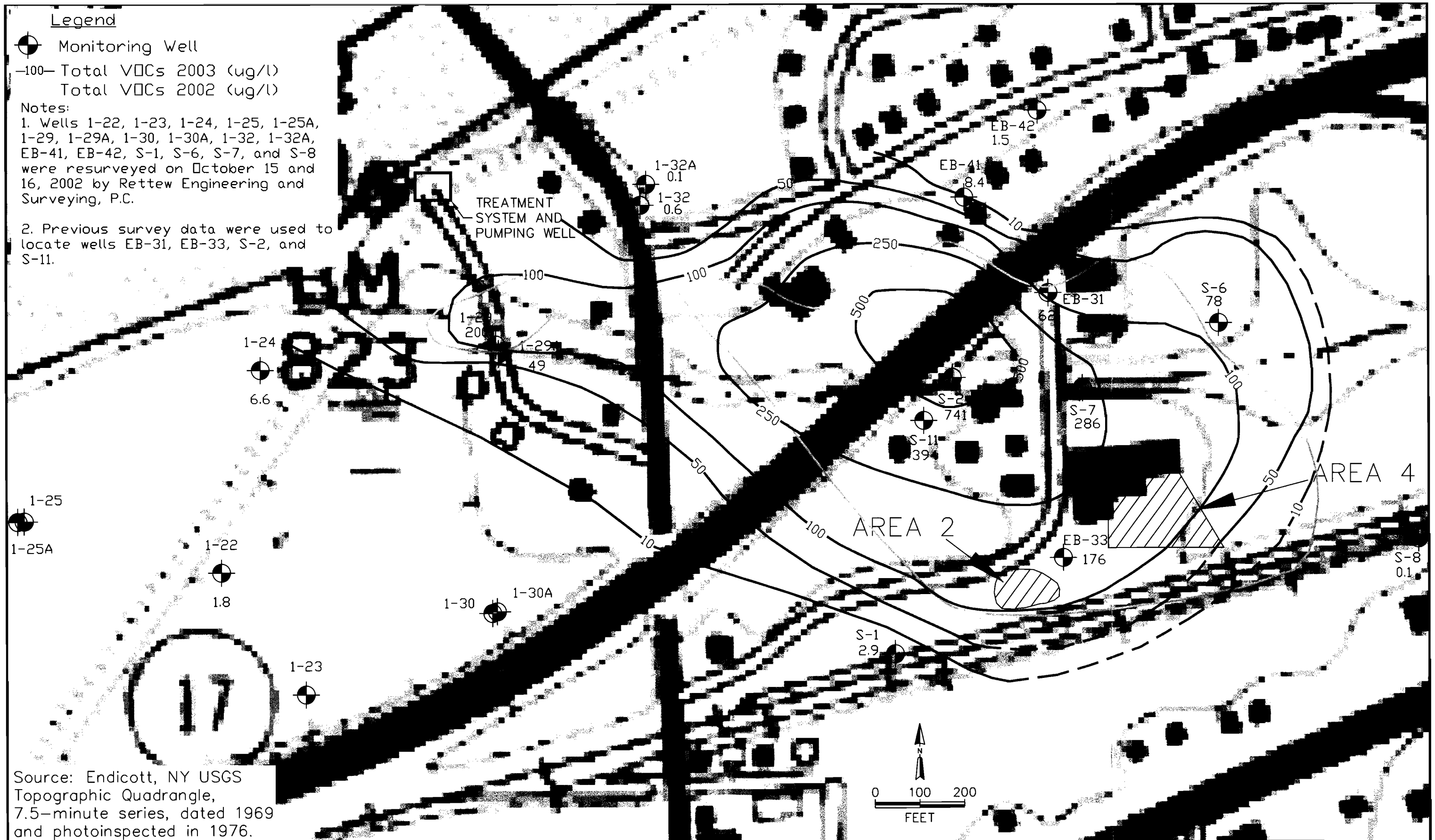
–100– Total VOCs 2003 (ug/l)

Total VOCs 2002 (ug/l)

Notes:

1. Wells 1-22, 1-23, 1-24, 1-25, 1-25A, 1-29, 1-29A, 1-30, 1-30A, 1-32, 1-32A, EB-41, EB-42, S-1, S-6, S-7, and S-8 were resurveyed on October 15 and 16, 2002 by Rettew Engineering and Surveying, P.C.

2. Previous survey data were used to locate wells EB-31, EB-33, S-2, and S-11.



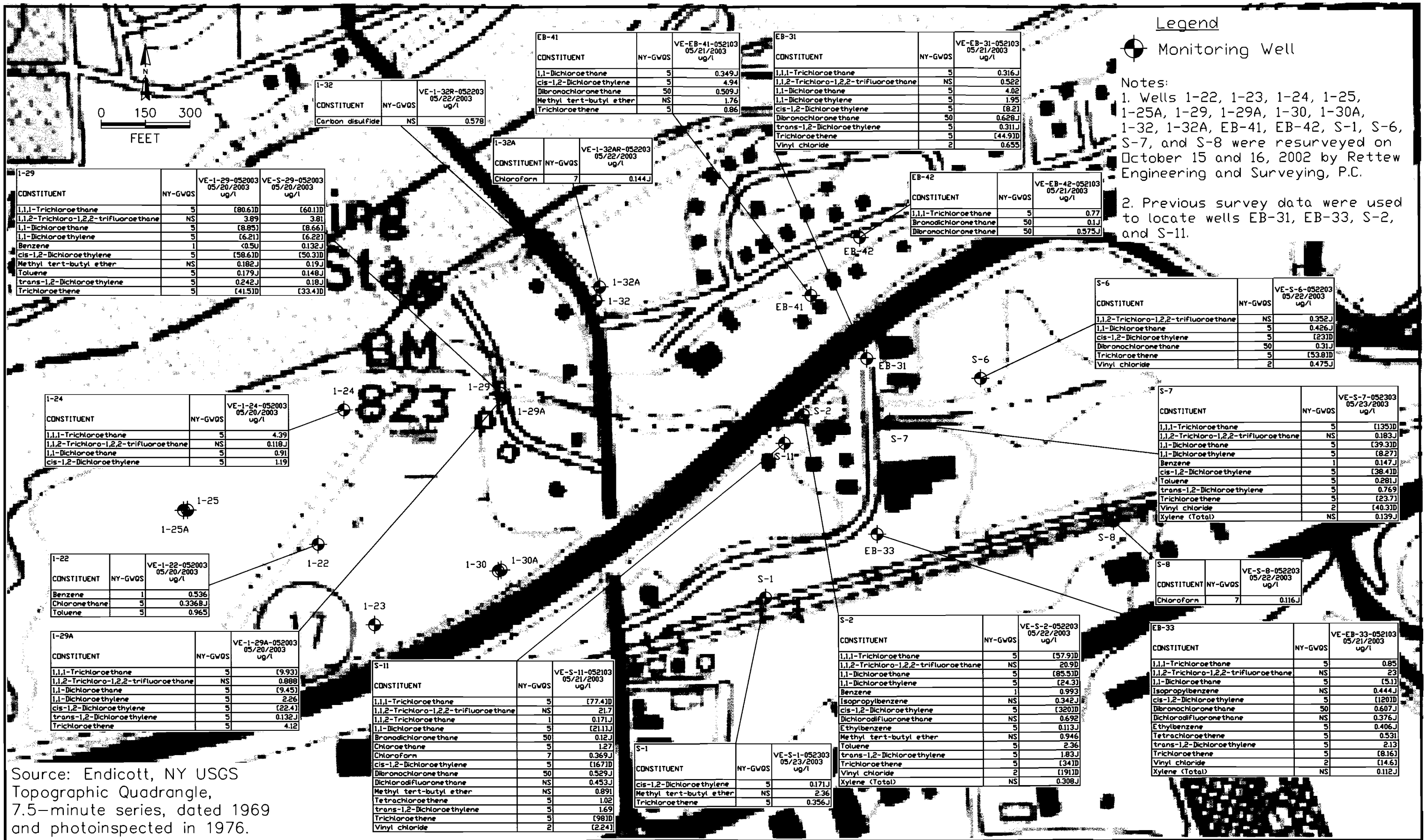

Source: Endicott, NY USGS Topographic Quadrangle, 7.5-minute series, dated 1969 and photoinspected in 1976.

**TETRA TECH FW, INC.**

TITLE:
Total Volatile Organic Compounds in Groundwater
Vestal Well 1-1 Site
Vestal, New York

| | | | |
|---|---|---|---|
| DWN.: CTS | DATE: 03/09/04 | PROJECT NO.: 1945.2109.0700 | |
| CHKD: MJM | REV.: 1 | FIGURE NO.: 3-2 | |
| DES.: CTS | APPD: HR | | |

N:\GIS\GISKEY\GISPROJ31\VESTAL-SURVEYED\FIGURE 3-2 030904.DWG




| 1-32 CONSTITUENT | NY-GWQS | VE-1-32R-052203 05/22/2003 ug/l |
|---|---|---|
| Carbon disulfide | NS | 0.578 |

| 1-32A CONSTITUENT | NY-GWQS | VE-1-32AR-052203 05/22/2003 ug/l |
|---|---|---|
| Chloroform | 7 | 0.144J |

| EB-41 CONSTITUENT | NY-GWQS | VE-EB-41-052103 05/21/2003 ug/l |
|---|---|---|
| 1,1-Dichloroethane | 5 | 0.349J |
| cis-1,2-Dichloroethylene | 5 | 4.94 |
| Dibromochloromethane | 50 | 0.509J |
| Methyl tert-butyl ether | NS | 1.76 |
| Trichloroethene | 5 | 0.86 |

| EB-31 CONSTITUENT | NY-GWQS | VE-EB-31-052103 05/21/2003 ug/l |
|---|---|---|
| 1,1,1-Trichloroethane | 5 | 0.316J |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | 0.522 |
| 1,1-Dichloroethane | 5 | 4.02 |
| 1,1-Dichloroethylene | 5 | 1.95 |
| cis-1,2-Dichloroethylene | 5 | [8.2] |
| Dibromochloromethane | 50 | 0.628J |
| trans-1,2-Dichloroethylene | 5 | 0.311J |
| Trichloroethene | 5 | [44.9]D |
| Vinyl chloride | 2 | 0.655 |

| 1-29 CONSTITUENT | NY-GWQS | VE-1-29-052003 05/20/2003 ug/l | VE-S-29-052003 05/20/2003 ug/l |
|---|---|---|---|
| 1,1,1-Trichloroethane | 5 | [80.6]D | [60.1]D |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | 3.89 | 3.81 |
| 1,1-Dichloroethane | 5 | [8.85] | [8.66] |
| 1,1-Dichloroethylene | 5 | [6.21] | [6.22] |
| Benzene | 1 | <0.5U | 0.132J |
| cis-1,2-Dichloroethylene | 5 | [58.6]D | [50.3]D |
| Methyl tert-butyl ether | NS | 0.182J | 0.19J |
| Toluene | 5 | 0.179J | 0.148J |
| trans-1,2-Dichloroethylene | 5 | 0.242J | 0.18J |
| Trichloroethene | 5 | [41.5]D | [33.4]D |

| EB-42 CONSTITUENT | NY-GWQS | VE-EB-42-052103 05/21/2003 ug/l |
|---|---|---|
| 1,1,1-Trichloroethane | 5 | 0.77 |
| Bromodichloromethane | 50 | 0.1J |
| Dibromochloromethane | 50 | 0.575J |

| S-6 CONSTITUENT | NY-GWQS | VE-S-6-052203 05/22/2003 ug/l |
|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | 0.352J |
| 1,1-Dichloroethane | 5 | 0.426J |
| cis-1,2-Dichloroethylene | 5 | [23]D |
| Dibromochloromethane | 50 | 0.31J |
| Trichloroethene | 5 | [53.8]D |
| Vinyl chloride | 2 | 0.475J |

| 1-24 CONSTITUENT | NY-GWQS | VE-1-24-052003 05/20/2003 ug/l |
|---|---|---|
| 1,1,1-Trichloroethane | 5 | 4.39 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | 0.118J |
| 1,1-Dichloroethane | 5 | 0.91 |
| cis-1,2-Dichloroethylene | 5 | 1.19 |

| S-7 CONSTITUENT | NY-GWQS | VE-S-7-052303 05/23/2003 ug/l |
|---|---|---|
| 1,1,1-Trichloroethane | 5 | [135]D |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | 0.183J |
| 1,1-Dichloroethane | 5 | [39.3]D |
| 1,1-Dichloroethylene | 5 | [8.27] |
| Benzene | 1 | 0.147J |
| cis-1,2-Dichloroethylene | 5 | [38.4]D |
| Toluene | 5 | 0.281J |
| trans-1,2-Dichloroethylene | 5 | 0.769 |
| Trichloroethene | 5 | [23.7] |
| Vinyl chloride | 2 | [40.3]D |
| Xylene (Total) | NS | 0.139J |

| 1-22 CONSTITUENT | NY-GWQS | VE-1-22-052003 05/20/2003 ug/l |
|---|---|---|
| Benzene | 1 | 0.536 |
| Chloromethane | 5 | 0.336BJ |
| Toluene | 5 | 0.965 |

| S-8 CONSTITUENT | NY-GWQS | VE-S-8-052203 05/22/2003 ug/l |
|---|---|---|
| Chloroform | 7 | 0.116J |

| 1-29A CONSTITUENT | NY-GWQS | VE-1-29A-052003 05/20/2003 ug/l |
|---|---|---|
| 1,1,1-Trichloroethane | 5 | [9.93] |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | 0.888 |
| 1,1-Dichloroethane | 5 | [9.45] |
| 1,1-Dichloroethylene | 5 | 2.26 |
| cis-1,2-Dichloroethylene | 5 | [22.4] |
| trans-1,2-Dichloroethylene | 5 | 0.132J |
| Trichloroethene | 5 | 4.12 |

| S-11 CONSTITUENT | NY-GWQS | VE-S-11-052103 05/21/2003 ug/l |
|---|---|---|
| 1,1,1-Trichloroethane | 5 | [77.4]D |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | 21.7 |
| 1,1,2-Trichloroethane | 1 | 0.171J |
| 1,1-Dichloroethane | 5 | [21.1]J |
| Bromodichloromethane | 50 | 0.12J |
| Chloroethane | 5 | 1.27 |
| Chloroform | 7 | 0.369J |
| cis-1,2-Dichloroethylene | 5 | [167]D |
| Dibromochloromethane | 50 | 0.529J |
| Dichlorodifluoromethane | NS | 0.453J |
| Methyl tert-butyl ether | NS | 0.891 |
| Tetrachloroethene | 5 | 1.02 |
| trans-1,2-Dichloroethylene | 5 | 1.69 |
| Trichloroethene | 5 | [98]D |
| Vinyl chloride | 2 | [2.24] |

| S-1 CONSTITUENT | NY-GWQS | VE-S-1-052303 05/23/2003 ug/l |
|---|---|---|
| cis-1,2-Dichloroethylene | 5 | 0.171J |
| Methyl tert-butyl ether | NS | 2.36 |
| Trichloroethene | 5 | 0.356J |

| S-2 CONSTITUENT | NY-GWQS | VE-S-2-052203 05/22/2003 ug/l |
|---|---|---|
| 1,1,1-Trichloroethane | 5 | [57.9]D |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | 20.9D |
| 1,1-Dichloroethane | 5 | [85.5]D |
| 1,1-Dichloroethylene | 5 | [24.3] |
| Benzene | 1 | 0.993 |
| Isopropylbenzene | NS | 0.342J |
| cis-1,2-Dichloroethylene | 5 | [320]D |
| Dichlorodifluoromethane | NS | 0.692 |
| Ethylbenzene | 5 | 0.113J |
| Methyl tert-butyl ether | NS | 0.946 |
| Toluene | 5 | 2.36 |
| trans-1,2-Dichloroethylene | 5 | 1.83J |
| Trichloroethene | 5 | [34]D |
| Vinyl chloride | 2 | [191]D |
| Xylene (Total) | NS | 0.308J |

| EB-33 CONSTITUENT | NY-GWQS | VE-EB-33-052103 05/21/2003 ug/l |
|---|---|---|
| 1,1,1-Trichloroethane | 5 | 0.85 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NS | 23 |
| 1,1-Dichloroethane | 5 | [5.1] |
| Isopropylbenzene | NS | 0.444J |
| cis-1,2-Dichloroethylene | 5 | [120]D |
| Dibromochloromethane | 50 | 0.607J |
| Dichlorodifluoromethane | NS | 0.376J |
| Ethylbenzene | 5 | 0.406J |
| Tetrachloroethene | 5 | 0.531 |
| trans-1,2-Dichloroethylene | 5 | 2.13 |
| Trichloroethene | 5 | [8.16] |
| Vinyl chloride | 2 | [14.6] |
| Xylene (Total) | NS | 0.112J |

Legend

Monitoring Well

Notes:
1. Wells 1-22, 1-23, 1-24, 1-25, 1-25A, 1-29, 1-29A, 1-30, 1-30A, 1-32, 1-32A, EB-41, EB-42, S-1, S-6, S-7, and S-8 were resurveyed on October 15 and 16, 2002 by Rettew Engineering and Surveying, P.C.

2. Previous survey data were used to locate wells EB-31, EB-33, S-2, and S-11.

Source: Endicott, NY USGS Topographic Quadrangle, 7.5-minute series, dated 1969 and photoinspected in 1976.

**TETRA TECH FW, INC.**

TITLE:
Volatile Organic Compounds Detected in the Groundwater
Vestal Well 1-1 Site
Vestal, New York

| DWN.: CTS | DATE: 03/09/04 | PROJECT NO.: 1945.2109.0700 |
|---|---|---|
| CHKD: MJM | REV.: 1 | FIGURE NO.: 3-3 |
| DES.: CTS | APPD: HR | |

N:\GIS\GISKEY\GISPROJ31\VESTAL-SURVEYED\FIGURE 3-3 030904.DWG

Legend

Monitoring Well

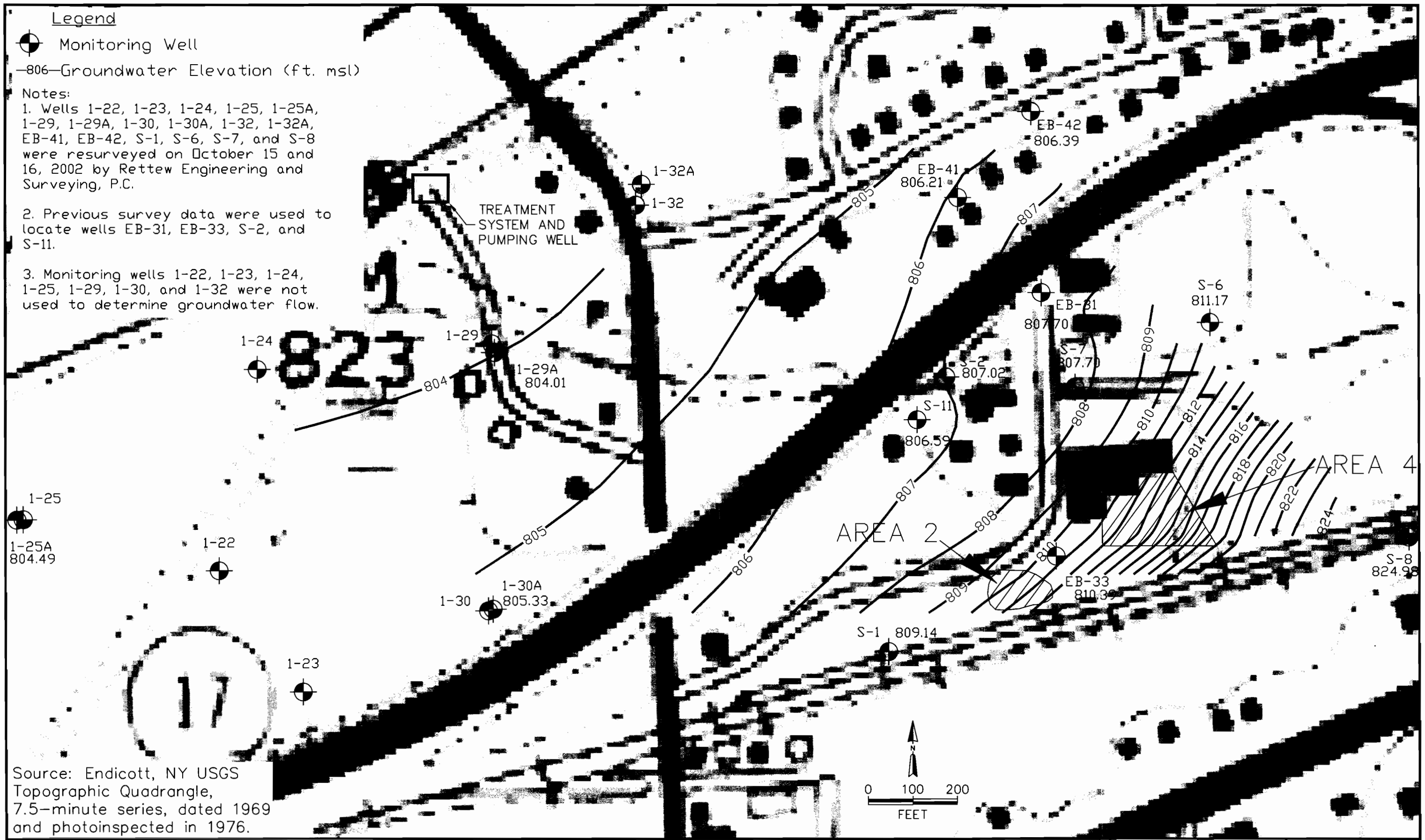
–806– Groundwater Elevation (ft. msl)

Notes:

1. Wells 1-22, 1-23, 1-24, 1-25, 1-25A, 1-29, 1-29A, 1-30, 1-30A, 1-32, 1-32A, EB-41, EB-42, S-1, S-6, S-7, and S-8 were resurveyed on October 15 and 16, 2002 by Rettew Engineering and Surveying, P.C.

2. Previous survey data were used to locate wells EB-31, EB-33, S-2, and S-11.

3. Monitoring wells 1-22, 1-23, 1-24, 1-25, 1-29, 1-30, and 1-32 were not used to determine groundwater flow.



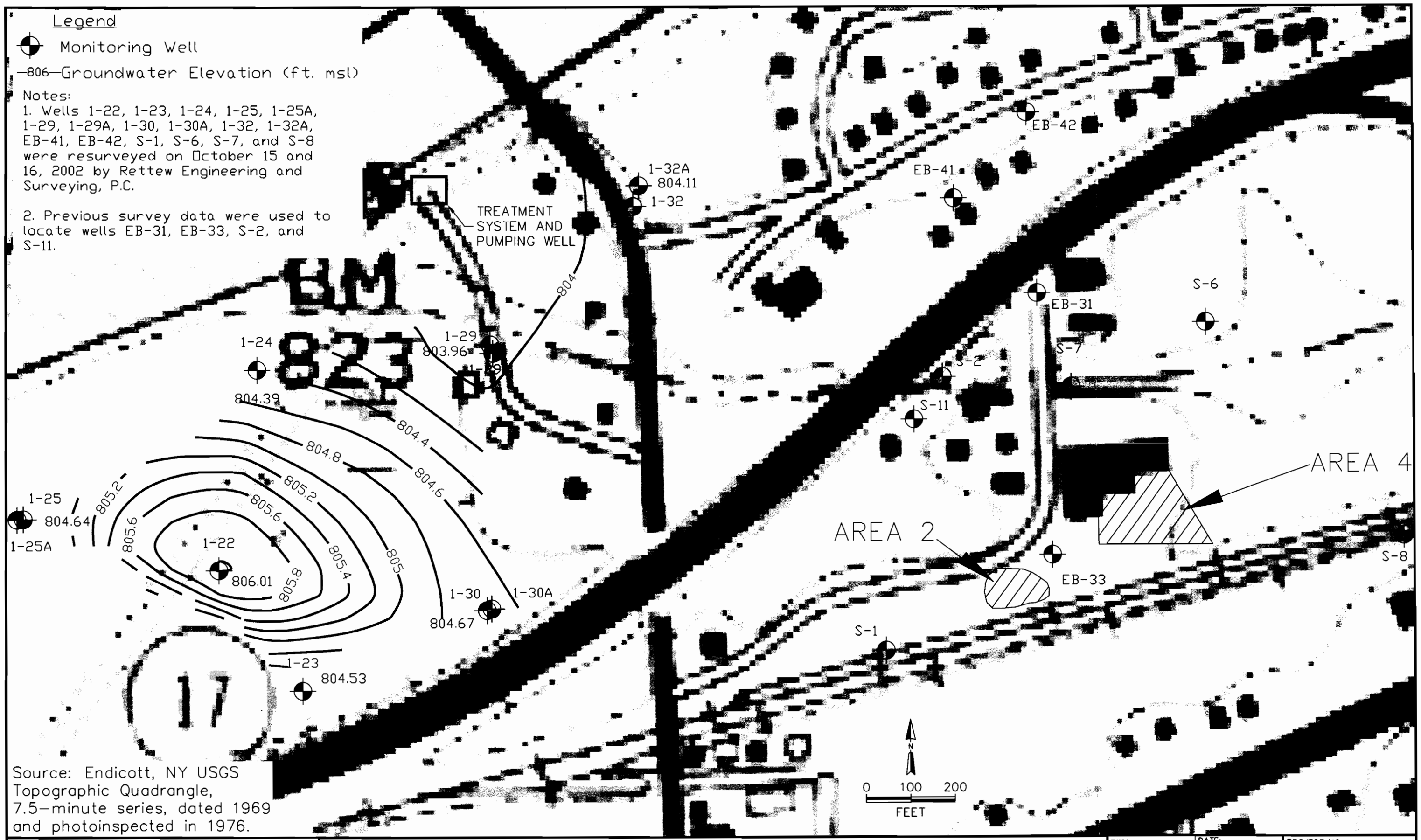

Source: Endicott, NY USGS Topographic Quadrangle, 7.5-minute series, dated 1969 and photoinspected in 1976.

**TETRA TECH FW, INC.**

TITLE:
Shallow Groundwater Surface Elevation Map
Vestal Well 1-1 Site
Vestal, New York

| | | | |
|---|---|---|---|
| DWN.: CTS | DATE: 03/09/04 | PROJECT NO.: 1945.2109.0700 | |
| CHKD: MJM | REV.: 1 | FIGURE NO.: 3-4 | |
| DES.: CTS | APPD: HR | | |

N:\GIS\GISKEY\GISPROJ31\VESTAL-SURVEYED\FIGURE 3-4 030904.DWG




TETRA TECH FW, INC.

TITLE:
Deep Groundwater Surface Elevation Map
Vestal Well 1-1 Site
Vestal, New York

| | | | |
|---|---|---|---|
| DWN.: CTS | DATE: 03/09/04 | PROJECT NO.: 1945.2109.0700 | |
| CHKD: MJM | REV.: 1 | FIGURE NO.: 3-5 | |
| DES.: CTS | APPD: HR | | |

N:\GIS\GISKEY\GISPROJ31\VESTAL-SURVEYED\FIGURE 3-5 030904.DWG

## 4.0 CONCLUSIONS AND RECOMMENDATIONS

The groundwater elevation data collected in May 2003 indicate that shallow groundwater is flowing northwest toward the Susquehanna River. The deep groundwater direction is flowing to the northeast based on the limited data points in the current deep monitoring well network. The vertical groundwater flow is generally from the shallow to deep groundwater zones. After repairs were made to the treatment system in November 2002, the system has a pumping rate (approximately 550 gpm) similar to the pump test results from 1994, therefore hydraulic control continues to be maintained. In addition, analytical results indicate that the contaminant plume has not migrated westerly beyond the Vestal Well 1-1 area.

The mounding in deep well 1-32 is likely the result of artificial recharge to the well due to a compromised well cap. The condition appears to be localized and may be related to surface runoff. Groundwater elevation measurements collected in December 2003 verified the mounding as a temporary condition.

The analytical results over the last six years indicate that the concentrations of total VOCs have generally decreased, thus indicating that aquifer restoration is continuing. The total VOC concentrations have been reduced in monitoring well S-7 from 1,454 ppb in October 2002 to 286 ppb in May 2003. The recent groundwater sampling results indicate that the highest VOC concentrations were present at monitoring well S-2 which is northwest of monitoring well S-7. The groundwater plume appears to be migrating northwest as a result of the groundwater extraction activities.

Site COCs chromium, copper, lead, mercury, nickel, and zinc concentrations were below the NYSGWQC. Iron and sodium concentrations exceeded the NYSGWQC in monitoring wells 1-22, 1-24, 1-29, and 1-29A; however, iron and sodium are not COCs.

The current sampling program does not include any clean wells at the shallow horizon along the western margin of the plume. It is recommended that monitoring wells 1-25A, 1-30, and 1-30A be added to the groundwater sampling program to eliminate this data gap. It also recommended that monitoring well 1-22 be removed from the sampling program because the data point will be duplicated due to the inclusion of 1-30.

The continuing presence of daughter products in the groundwater and the decreasing concentrations of total VOCs in the nearby monitoring wells indicates that natural attenuation may be occurring and thus limiting the migration of source contaminants. Based on this observation, it is recommended that dissolved total organic carbon, alkalinity, nitrate, sulfate, chloride, ethylene, methane, ethane, and ferrous iron parameters be added to the list of analytes for the next groundwater sampling event to better evaluate natural attenuation.

# APPENDIX A

## Copy of Field Log Book Entries

Tuesday, May 6, 2003
1015 Arrived onsite. EPA WAM Sharon Trocher already onsite with Aguila operator Dennis Shimer. NYDEC inspectors Jim Strang and John Burke arrived as I did. EPA is conducting 5-year review of the facility today, and invited NYDEC to attend so that they can begin to be involved in long-term decisions (It is anticipated that NYDEC will take over site in 2006).
Attended walkthrough for 5-yr review.
1130 Began preparing sampling materials
Will take double volume from influent
1145 Sampled influent.
1150 Sampled effluent.
Went to OU2 with Sharon, and drove to most of the wells ~~prepar~~ HR repaired last year.
1300 Left site (HR)

H. Roldan



VESTAL / ARRIVAL - MOB MONDAY 5/19/03

0755 - TONY BARROQUEIRO (TTFW1 - MP) arrives on-site to perform LOW-FLOW GROUNDWATER SAMPLING
- AWAIT ARRIVAL OF TOM FOWLER (TTFW1 - MP)
WEATHER = 50°F ; SUNNY - HIGH OF 75°F EXPECTED TODAY
- 0800 - TOM FOWLER ARRIVES ON-SITE
- 0810 - CONDUCT H & S BRIEFING
PPE = HH, SG, STB
- TICKS - SPRAY DEET + TYVEK IF NEC.
- 0830 - SET UP DECON PAD
- 0915 - CALIBRATE MINIRAE 2000 (SN 110-003409) USING ISOBUTYLENE 100 ppm SPAN GAS & ZERO TO AMBIENT AIR
PRE = 0.1 ppm SPAN = 102 ppm READING = 0.0
- 0930 - TOM FOWLER DEPARTS SITE FOR HOME DEPOT & GASOLINE RUN FOR GENERATOR
- TONY CONTINUES PREPPING FOR FIELD SAMPLING ACTIVITIES
- 0952 - TOM BACK ON-SITE W/ PVC FOR HIGH & GAS FOR GENERATOR
- 1006 - TONY & TOM MOB to collect GW SAMPLES USING A SOLINST - WATER LEVEL

OB 5/19/03

(75)

VESTAL / GW LEVELS — MONDAY 5/19/03

| WELL ID | TIME | DTW (TIC) | PID (PPM) BZ WELL | Comments |
|---|---|---|---|---|
| 1-25 | 1030 | 22.38 | 0.0 0.0 | TDW = 150' TIC |
| 1-26A | 1033 | 22.43 | 0.1 0.1 | TDW = 45' TIC |
| 1-20A | 1041 | 21.55 | 0.0 0.2 | TDW - 3½' TIC / NO CAP |
| 1-20 | 1043 | 20.23 | 0.1 0.0 | NO CAP |
| 1-24 | 1047 | 22.37 | 0.0 0.0 | TDW = 128' TIC |
| 1-22 | 1103 | 11.60 | 0.0 0.0 | |
| 1-28 | 1116 | 18.81 | 0.0 21.6 | |
| 1-28A | 1119 | 18.96 | 0.0 3.1 | TDW = 50' TIC |
| 1-27 | 1132 | 14.77 | 0.0 0.3 | |
| R21 | 1137 | 15.88 | 0.0 0.0 | TDW = 43' TIC |
| 1-26 | 1145 | - DESTROYED | | |
| 1-30A | 1315 | 11.09 | 0.0 0.0 | |
| 1-30 | 1316 | 11.87 | 0.0 0.0 | |
| 1-23 | 1321 | 16.38 | 0.0 0.0 | |
| 1-29 | 1330 | 19.59 | 0.0 0.0 | |
| 1-29A | 1331 | 20.02 | 0.0 0.0 | TDW = 60' TIC |
| 1-32AR* | 1342 | 26.75' | 0.0 0.0 | MANHOLE UPSIDE DOWN & WELL CAP OFF |

* DEEPER WELL SHOULD HAVE JUST R NOT AR

| | | | | |
|---|---|---|---|---|
| 1-32R** | 1348 | 14.66 | 0.0 0.0 | TDW = 34.7' TIC |

** SHALLOW SHOULD BE LABELED AS 1-32AR

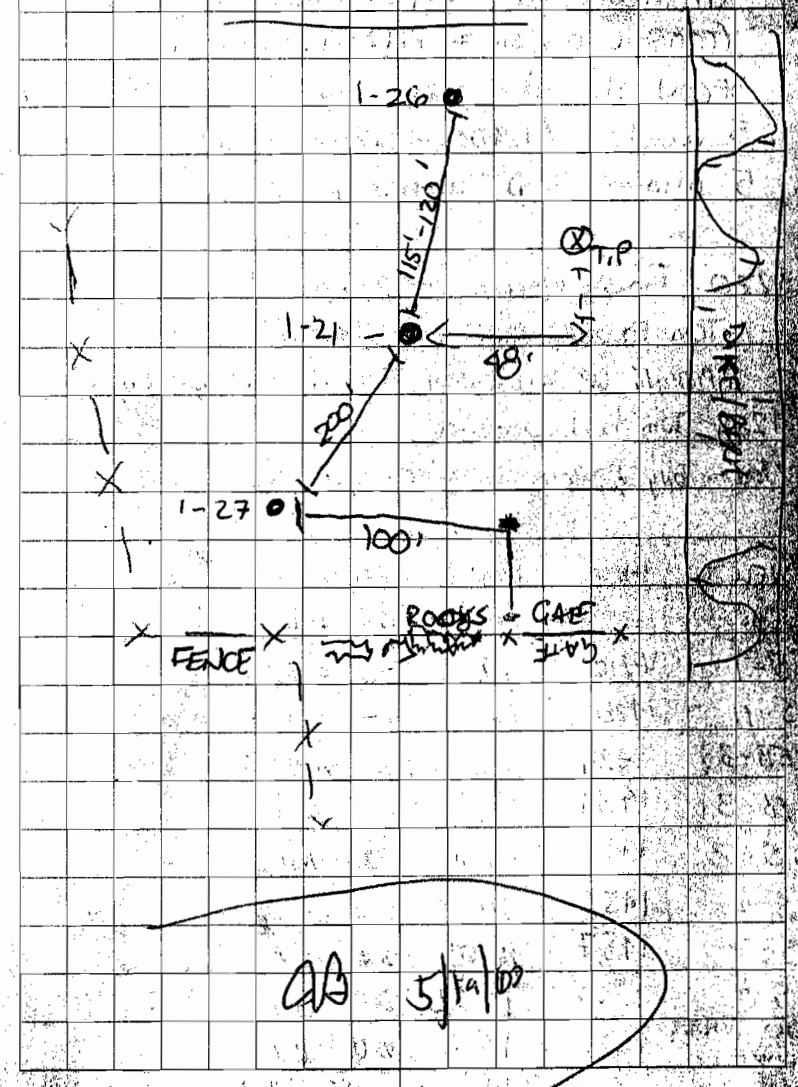
| | | | | |
|---|---|---|---|---|
| EB-41 | 1354 | 19.17 | 0.0 0.0 | |
| EB-42 | 1400 | 25.15 | 0.0 0.0 | |

AB 5/19/03

(76)

VESTAL IF FIGURE WELL LOCATIONS 5/19/03

LOCATION OF WELLS 1-27, 1-21, 1-26




AB 5/19/03

VESTAL / LUNCH ; DECON ; WELL MEAS 5/19/03

1204 - START DEON OF 2" Stainless Steel Grundfos Pump (Pump SN# 0218/3349) (CONTROL BOX SN # P1920421 23)

DECON Method 5 minute - Potable WATER Rinse
5 minute - ALCONOX/WATER RINSE
5 minute - DI WATER RINSE

1220 - Finish decon of pump
- TOM FOWLER OFF-SITE GETTING LUNCH ; PICKING UP ALUMINUM FOIL FOR DECONNED PUMP

1230 - Tom back on-site

1300 - Tony ; TOM CONTINUE GW MEASUREMENTS

| WELL ID | TIME | DTW | PID (ppm) BZ WELL | Comments |
|---|---|---|---|---|
| S-1 | 1410 | 19.02 | 0.0 0.0 | |
| S-11 | 1420 | 16.19 | 0.0 0.1 | - NO WELL CAP - LOCKS RIPPED OFF |
| EB-33 | 1429 | 18.20 | 0.0 1.3 | |
| EB-31 | 1434 | 18.07 | 0.0 0.0 | |
| S-2 | 1445 | 17.71 | 0.0 0.0 | - OUTER CASING LIDS OFF |
| S-6 | 1455 | 11.29 | 0.0 0.0 | |
| S-7 | 1457 | 16.02 | 0.0 0.0 | |
| S-8 | 1505 | 17.22 | 0.0 0.0 | |
| OLD ADMIN WELL | 1525 | 18.52 | 0.0 0.0 | |

NE WELL - Pump RUNNING - UNABLE TO LOCATE PORT ID correct GW level

CB 5/19/03



VESTAL / CLEAN-UP 5/19/03

1530 - Tony & TOM START CLEAN-UP OF MATERIALS & PREP TO DEPART SITE

1600 - TONY & TOM DEPART SITE - LOCK UP GATE

CB 5/19/03

(79)

VESTAL SETUP 5/20/03

0730 - TONY BARROQUEIRO & DM FOWLER ARRIVE ON-SITE TO START LOW-FLOW GROUNDWATER SAMPLING

- HEALTH & SAFETY BRIEFING
- HEAT STRESS, TICKS, POISON IVY, LIFTING GENERATOR
- PPE SG, SNB, HH

WEATHER ≈ 58°F SUNNY, HIGH OF 80°F expected

- CALIBRATE PID (SN 110-003108) same method as 5/19/03

ZERO = 0.0 ppm SPAN = 99.9 READING - 0.0-0.5 ppm

- CALIBRATE Horiba U-22 using pH 4 buffer solution (AUTO-CAL)

| | CAL READINGS |
|---|---|
| pH - 4.00 | pH - 4.01 |
| NTU - 0 | TURB - -1.1 NTU |
| COND 4.49 mS/cm | COND - 4.51 mS/cm |
| | D.O - 9.66 mg/L |

- NO VS ENVIRONMENTAL SN ON INSTRUMENT SO MFG SN IS 9272047

0820 - SET UP ON I-24

INITIAL DTW (TIC) = 22.82 PID = 50 ppm

- PUMP LOWERED TO 128' (TOC) ≈ 1' from bottom

DTW (w/pump in) = 22.82

CB 5/20/03

(80)

VESTAL I-24 5/20/03

| TIME | DTW (TIC) | FLOW (mL/min) | pH | COND (mS/cm) | TURB (NTU) | D.O (mg/L) | TEMP (°C) | ORP (mV) | PID (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 0858 | 22.82 | 400 | 8.94 | 0.274 | 34.5 | 5.55 | 12.5 | 149 | 1.2 |
| 0858 | " | " | 12.24 | 0.204 | 28.5 | 1.55 | 12.7 | 31 | |
| 0902 | " | " | 12.38 | 0.201 | 26.6 | 1.19 | 12.9 | -28 | 0.0 |
| 0906 | " | " | 12.15 | 0.205 | 12.7 | 1.00 | 12.9 | -63 | |
| 0910 | " | " | 11.86 | 0.211 | 15.3 | 0.90 | 13.0 | -67 | 0.0 |
| 0914 | " | " | 11.24 | 0.234 | 11.3 | 0.82 | 13.0 | -58 | |
| 0918 | " | " | 10.79 | 0.258 | 6.5 | 0.87 | 13.1 | -96 | |
| 0922 | " | " | 10.39 | 0.293 | 1.4 | 0.85 | 13.2 | -117 | |
| 0926 | " | " | 9.97 | 0.329 | -1.8 | 0.89 | 13.3 | -124 | |
| 0930 | " | " | 9.70 | 0.349 | -2.9 | 0.91 | 13.3 | -121 | |
| 0934 | " | " | 9.50 | 0.362 | -3.3 | 0.92 | 13.3 | -122 | |
| 0938 | " | " | 9.38 | 0.369 | -3.6 | 0.92 | 13.3 | -121 | 0.0 |
| 0942 | " | " | 9.31 | 0.373 | -3.5 | 0.90 | 13.3 | -122 | |
| 0946 | " | " | 9.25 | 0.376 | -3.4 | 0.90 | 13.5 | -121 | |
| 0950 | " | " | 9.21 | 0.379 | -3.3 | 0.90 | 13.6 | -122 | |
| 0954 | " | " | 9.18 | 0.380 | -3.2 | 0.89 | 13.8 | -124 | |
| 0958 | " | " | 9.16 | 0.382 | -3.4 | 0.90 | 14.0 | -125 | |

TOTAL PURGE ≈ 10 GALLONS

1010 - COLLECT GW SAMPLE VE-1-24-052003 for low concentration VOCs, TAL metals, 4 MS/MSD

1015 - CLEAN UP - LOCK WELL - MOB TO DECON

CB 5/20/03

(81)

VESTAL - DECON / 1-22 5/20/03

1020 - START DECON OF PUMP - same Method as 5/19/03

- TOM DUMPS PURGE WATER INTO TREATMENT SYSTEM UST

1040 - Mob to 1-22

1045 - SET-UP on 1-22

DTW = 12.01' PID = 0.0 ppm

- TUBING LENGTH IS ONLY = 1/8'

- Pump SET ≈ 115' TIC b/c tubing length

DTW (w/pump in) = 27.59'

| TIME | DTW (TIC) | FLOW (mL/min) | pH | TURB (NTU) | COND (mS/cm) | D.O (mg/L) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 1110 | 10.51 | 250 | NR* | 1.72 | 0.663 | 6.31 | 13.1 | -74 |
| 1115 | 12.88 | " | NR* | 19.7 | 0.705 | 1.98 | 12.6 | -108 |
| 1120 | 17.11 | 350 | NR* | 22.1 | 0.695 | 1.14 | 12.2 | -129 |
| 1125 | 20.26 | " | NR* | 26.6 | 0.679 | 0.80 | 12.5 | -147 |
| 1130 | 22.85 | " | 11.14 | 91.4 | 0.716 | 2.98 | 12.75 | -28 |
| 1135 | 24.96 | " | 11.56 | 80.2 | 0.716 | 1.52 | 12.57 | -90 |
| 1140 | 27.64 | " | 11.65 | 73.7 | 0.715 | 2.72 | 12.62 | -118 |
| 1145 | 29.59 | " | 11.74 | 66.8 | 0.710 | 2.11 | 12.75 | -146 |
| 1150 | 31.68 | 300 | 11.79 | 66.2 | 0.710 | 0.80 | 12.72 | -165 |

(CONTINUED ON NEXT PAGE)

* - pH reading FLASHING - TOM goes to calibrate & return w/ backup PID

CB 5/20/03

(82)

VESTAL - 1-22 / DECON 5/20/03

1110 - TOM GOES TO GET BACK-UP HORIBA U-22 b/c pH readings FLASHING AT 11.49

1120 - VERY SLOW RECHARGE IN WELL - NOTE DROP IN $H_2O$ LEVEL

1125 - TOM RETURNS W/CALIBRATED BACK-UP HORIBA (MFG SN TOO52009)

| TIME | DTW (TIC) | FLOW (mL/min) | pH | COND (mS/cm) | TURB (NTU) | DO (mg/L) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 1155 | 33.43 | 300 | 11.86 | 0.711 | 71.1 | 0.82 | 12.57 | -179 |
| 1200 | 35.51 | " | 11.84 | 0.714 | 67.9 | 0.69 | 12.56 | -186 |
| 1205 | 37.39 | 250 | 11.86 | 0.714 | 66.4 | 0.55 | 12.96 | -192 |
| 1210 | 38.99 | " | 11.87 | 0.716 | 64.5 | 0.48 | 12.83 | -197 |
| 1215 | 40.73 | " | 11.89 | 0.716 | 66.5 | 0.36 | 12.85 | -199 |

- TOTAL PURGE ≈ 7 GALLONS

1220 - COLLECT GW SAMPLE VE-1-22-052003 FOR LOW CONC. VOCs & TAL Metals (TOTAL 4 JARS)

- CLEAN UP & MOB TO DECON PAD

1235 - START DECON OF PUMP - SAME METHOD AS B/4

- TOM DISPOSES OF PURGE $H_2O$

1250 - Mob to 1-29

CB 5/20/03

(83)

VESTAL 1-29 5/20/03

1253 - SET-UP ON 1-29

INITIAL DTW 19.92 (TIC) PUMP DEPTH ≈ 107'

DTW WITH PUMP IN 19.94' TUBING LENGTH = 110'

| TIME | DTW (TIC) | FLOW (mL/min) | pH | COND (mS/cm) | TURB (NTU) | D.O (mg/L) | TEMP (C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 1305 | 19.95 | 500 | 9.35 | 0.466 | 145 | 5.36 | 12.19 | 13 |
| 1310 | " | " | 9.88 | 0.709 | 262 | 1.82 | 11.88 | -176 |
| 1315 | " | " | 8.92 | 0.842 | 322 | 1.22 | 12.05 | -127 |
| 1320 | " | " | 8.30 | 0.900 | 219 | 1.11 | 12.02 | -96 |
| 1325 | " | " | 8.04 | 0.919 | 133 | 1.08 | 12.08 | -85 |
| 1330 | " | " | 7.88 | 0.926 | 98 | 1.07 | 12.09 | -80 |
| 1335 | " | " | 7.77 | 0.933 | 66.4 | 1.08 | 12.14 | -73 |
| 1340 | " | " | 7.71 | 0.935 | 53 | 1.08 | 12.16 | -70 |
| 1345 | " | " | 7.67 | 0.938 | 44 | 1.07 | 12.32 | -68 |
| 1350 | " | " | 7.64 | 0.941 | 179 | 1.06 | 12.26 | -66 |

TOTAL PURGE ≈ 8 GALLONS

1400 - Collect gw sample VE-1-29-052003 for LOW conc. VOCs & TAL Metals

- ALSO COLLECT DUPLICATE SAMPLE & LABEL VE-5-29-052003 FOR SAME AS ABOVE

TOTAL JARS 4 each sample = 8

- mob to decon pad

- 1410 - START DECON - SAME METHOD AS PREVIOUS

- TOM DISPOSES OF PURGE $H_2O$

CB 5/20/03

(84)

VESTAL 1-29A 5/20/03

1430 - Mob to 1-29A & SET-UP @

INITIAL DTW = 20.36 PID = 0.0 ppm

DTW w/PUMP = 20.[illegible] TUBING LENGTH = 68'

DEPTH OF PUMP = 58 TOW = 60'

| TIME | DTW (TIC) | FLOW (mL/min) | pH | COND (mS/cm) | TURB NTU | D.O (mg/L) | TEMP (C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 1449 | 20.97 | 400 | 8.70 | 0.510 | 64.1 | 5.48 | 15.89 | -9 |
| 1453 | 20.98 | " | 9.56 | 0.628 | 129 | 1.37 | 13.57 | -203 |
| 1457 | " | " | 8.73 | 0.773 | 95.4 | 0.80 | 13.68 | -178 |
| 1501 | " | " | 8.31 | 0.843 | 62.5 | 0.52 | 13.82 | -171 |
| 1505 | " | " | 8.10 | 0.875 | 37.9 | 0.37 | 13.95 | -168 |
| 1509 | " | " | 7.96 | 0.908 | 29.3 | 0.29 | 13.98 | -165 |
| 1513 | " | " | 7.85 | 0.913 | 28.3 | 0.20 | 13.97 | -165 |
| 1517 | " | " | 7.81 | 0.920 | 29.1 | 0.10 | 13.91 | -165 |
| 1521 | " | " | 7.76 | 0.923 | 29.6 | 0.07 | 13.88 | -164 |
| 1525 | " | " | 7.74 | 0.926 | 30.4 | 0.03 | 13.96 | -164 |

TOTAL PURGE ≈ 7 GALLONS

1530 - Collect GW SAMPLE VE-1-29A-052003 FOR VOCs (LOW CONC.) & TAL Metals

- COLLECT MS/MSD - TOTAL 11 JARS

- Mob to decon pad

CB 5/20/03

(85)

VESTAL DECON / FIELD BLANK 5/20/03

1550 - START DECON OF PUMP - same method as previous

- TOM GOES TO COLLECT $H_2O$ LEVEL AT 1-22 DTW = 43.02

1610 - FINISH DECON

- NO CLEAN TUBING ONLY DEDICATED WELL TUBING ON-SITE
- WILL RUN PUMP INSIDE PVC to CIRCULATE WATER & DECANT TO COLLECT SAMPLE

1630 - Collect FIELD BLANK VE-FB-052003 FOR LOW CONC VOCs, TAL Metals (4 JARS)

1645 - TONY & TOM CLEAN-UP & DEPART SITE FOR FEDEX

CB 5/20/03

(86)

VESTEL - START OF DAY / EB-41 5/21/03

0700 - TONY BARROQUEIRO AND TOM FOWLER ARRIVE ON-SITE TO CONTINUE LOW FLOW GW SAMPLING

WEATHER = CLOUDY ≈ 50°F

EXPECTED PARTLY SUNNY ≈ 63°F

- CONDUCT H&S BRIEFING

SAFETY TIP = ROAD TRAFFIC, TENSOR Level High

PPE = HH, SG, STB

- CALIBRATE PID & MINIRAE same METHOD AS 5/14/03

PID (SN # 110 - 003408)

ZERO = 0.0 SPAN = 99.8 READING = 0.0

HORIBA U-22 (MFG SN # TD0527209)

pH = 3.97 TURB = -1.8

COND = 4.51 ms/cm DO = mg/L 9.26

0720 - Mob to EB-41

INITIAL DTW (TIC) = 19.51 PID (ppm) = 0.0

DTW w/PUMP (TIC) = 19.47 PUMP DEPTH (TIC) = 27'

TDW (TIC) 28.3

CB 5/21/03

(87)

VESTAL EB-41 / DECON / EB-42 5/21/03

| TIME | DTW (TIC) | FLOW (mL/min) | pH | COND (ms/cm) | TURB (NTU) | D.O (mg/L) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 0746 | 19.74 | 300 | 6.17 | 1.60 | 299 | 2.98 | 11.49 | 92 |
| 0751 | 19.75 | " | 6.42 | 1.60 | 176 | 1.24 | 12.96 | 56 |
| 0756 | 19.77 | " | 6.50 | 1.61 | 118 | 0.94 | 13.51 | 38 |
| 0801 | 19.76 | " | 6.51 | 1.63 | 85.6 | 0.83 | 13.72 | 32 |
| 0806 | 19.77 | " | 6.47 | 1.66 | 66.3 | 0.89 | 13.81 | 31 |
| 0811 | 19.77 | " | 6.44 | 1.68 | 54.7 | 0.83 | 13.87 | 32 |

TOTAL PURGE = 4 gallons

0815 - Collect GW sample VE-EB-41-052103 for Low Concentration VOCs (TOTAL 3 JARS)

- Mob to decon

0830 - START DECON OF PUMP - SAME METHOD AS 5/19/03

0855 - Mob to EB-42

0900 - SET-UP ON EB-42

DTW (TIC) = 25.47 PID (ppm) = 0.0 ppm

DTW w/pump (TIC) = 25.47 PUMP DEPTH (TIC) = 40'

TOW (TIC) = 42.8'

CB 5/21/03

(88)

VESTAL EB-42 5/21/03

| TIME | DTW (TIC) | FLOW (mL/min) | pH | COND (ms/cm) | D.O (mg/L) | TURB (NTU) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 0914 | 25.50 | 500 | 6.73 | 2.89 | 3.97 | 507 | 12.29 | 105 |
| 0921 | " | " | 6.76 | 2.86 | 1.98 | 524 | 13.88 | 91 |
| 0926 | " | " | 6.80 | 2.79 | 1.90 | 283 | 14.20 | 77 |
| 0931 | " | " | 6.81 | 2.76 | 1.87 | 225 | 14.30 | 69 |
| 0936 | " | " | 6.82 | 2.47 | 3.60 | 214 | 14.15 | 63 |
| 0941 | " | " | 6.80 | 2.31 | 4.66 | 191 | 14.14 | 61 |
| 0946 | " | " | 6.79 | 2.24 | 5.36 | 179 | 14.18 | 60 |
| 0951 | 25.51 | " | 6.79 | 2.21 | 5.39 | 168 | 14.22 | 60 |
| 0956 | " | " | 6.79 | 2.17 | 5.57 | 150 | 14.17 | 58 |
| 1001 | " | " | 6.79 | 2.13 | 5.75 | 134 | 14.20 | 56 |
| 1006 | " | " | 6.80 | 2.09 | 5.92 | 137 | 14.19 | 55 |
| 1011 | " | " | 6.80 | 2.03 | 6.11 | 104 | 14.21 | 53 |
| 1016 | " | " | 6.80 | 1.97 | 6.26 | 88 | 14.21 | 52 |
| 1021 | " | " | 6.80 | 1.90 | 6.44 | 71 | 14.28 | 52 |
| 1026 | " | " | 6.79 | 1.80 | 6.66 | 55.8 | 14.11 | 53 |
| 1031 | " | " | 6.78 | 1.74 | 6.81 | 46.2 | 14.11 | 56 |
| 1036 | " | " | 6.78 | 1.71 | 6.88 | 43.2 | 14.21 | 57 |
| 1041 | " | " | 6.78 | 1.69 | 6.94 | 39.2 | 14.22 | 58 |

- TOTAL PURGE = 18 gallons

1045 - Collect gw sample VE-EB-41-052103 for Low concentration VOCs (3 JARS)

- mob to decon

CB 5/21/03

(89)

VESTAL / DECON / EB-31 5/2/03

1000 - TOM COLLECTS DTW AT 1-22 DTW = 34.10' (TIC)

1055 - ARRIVE AT DECON PAD
- TOM CHANGED DECON METHOD
5 MINUTE - ALCINOX RINSE
5 " - DI RINSE NO Pre-Rinse
5 " - DI RINSE of potable water
- START DECON

1110 - Mob to EB-31
1115 - SET UP ON EB-31
INITIAL DTW ('TIC) = 18.20' PID (ppm) - 0.0
DTW w/pump ('TIC) = 17.90 PUMP DEPTH = 51' (TIC)
TDW ('TIC) = 51'

| TIME | DTW ('TIC) | FLOW (mL/min) | pH | COND (ms/cm) | TURB (NTU) | D.O. (mg/l) | TEMP (C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 1135 | 18.48 | 250 | 6.91 | 1.14 | 74.6 | 5.92 | 12.47 | 107 |
| 1139 | 18.69 | " | 6.75 | 1.14 | 155 | 3.05 | 12.48 | 100 |
| 1143 | 18.77 | " | 6.73 | 1.14 | 150 | 2.67 | 12.55 | 98 |
| 1147 | 18.82 | " | 6.72 | 1.14 | 135 | 2.52 | 12.67 | 97 |
| 1151 | 19.08 | " | 6.72 | 1.14 | 135 | 2.34 | 12.52 | 96 |
| 1155 | 19.22 | " | 6.71 | 1.14 | 104 | 2.03 | 12.90 | 95 |

(CONTINUED ON NEXT PAGE)

— OB 5/2/03 —

(90)

VESTAL EB-31 / DECON / EB-31 5/2/03

| TIME | DTW ('TIC) | FLOW (mL/min) | pH | COND (ms/cm) | TURB (NTU) | D.O (mg/l) | TEMP (C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 1159 | 19.29 | 250 | 6.71 | 1.14 | 109 | 1.89 | 13.15 | 95 |
| 1203 | 19.40 | " | 6.71 | 1.14 | 92.1 | 1.94 | 13.41 | 95 |
| 1207 | 19.42 | " | 6.71 | 1.13 | 91.9 | 1.88 | 13.40 | 95 |
| 1211 | 19.49 | " | 6.71 | 1.13 | 83.3 | 1.86 | 13.41 | 95 |
| 1215 | 19.53 | " | 6.71 | 1.13 | 75.6 | 1.69 | 13.36 | 95 |
| 1219 | 19.54 | " | 6.71 | 1.13 | 71.1 | 1.62 | 13.35 | 94 |
| 1223 | 19.55 | " | 6.71 | 1.13 | 68.2 | 1.73 | 13.46 | 93 |
| 1227 | 19.55 | " | 6.71 | 1.13 | 68.4 | 1.92 | 13.59 | 93 |
| 1231 | 19.56 | " | 6.71 | 1.13 | 61.5 | 2.06 | 13.54 | 93 |
| 1235 | 19.58 | " | 6.71 | 1.14 | 60.4 | 2.10 | 13.34 | 93 |
| 1239 | 19.56 | " | 6.71 | 1.13 | 61.5 | 2.09 | 13.25 | 93 |

TOTAL PURGE ≈ 4.5 GALLONS

1245 - Collect gw sample VE-EB-31-052103 for Low Concentration VOCs (3 JARS)
- Mob to decon

1255 - START DECON - same method as PAGE 89
1310 - Mob to EB-33
1315 - SET UP ON EB-33
INITIAL DTW ('TIC) = 18.32 PID (ppm) = 0.0
DTW w/pump ('TIC) = 18.04 Pump Depth ('TIC) = 33'
TDW ('TIC) = 34'

(11)

VESTAL EB 31 / DECON 5/21/03

| TIME | DTW (TIC) | FLOW (mL/min) | pH | COND (ms/cm) | TURB (NTU) | D.O (mg/L) | ORP (mV) | TEMP (°C) |
|---|---|---|---|---|---|---|---|---|
| 1329 | 18.71 | 300 | 6.95 | 1.20 | 192 | 4.71 | 128 | 11.60 |
| 1334 | 18.92 | " | 6.92 | 1.18 | 199 | 1.71 | 74 | 1.80 |
| 1339 | 18.97 | " | 7.04 | 1.18 | 113 | 1.36 | 24 | 12.17 |
| 1344 | 19.00 | " | 7.05 | 1.18 | 72.4 | 1.21 | 8 | 12.44 |
| 1349 | 19.02 | " | 7.05 | 1.18 | 46.5 | 0.96 | -7 | 12.65 |
| 1354 | 19.00 | " | 7.03 | 1.18 | 43.2 | 0.84 | -6 | 12.95 |
| 1359 | " | " | 7.02 | 1.18 | 43.1 | 0.85 | -17 | 12.96 |
| 1404 | 19.01 | " | 7.09 | 1.18 | 38.4 | 0.86 | -43 | 12.94 |
| 1409 | 19.03 | " | 7.08 | 1.18 | 37.1 | 0.87 | -52 | 13.26 |
| 1414 | " | " | 7.06 | 1.18 | 36.2 | 0.82 | -59 | 13.29 |
| 1419 | 19.04 | " | 7.06 | 1.18 | 33.5 | 0.61 | -70 | 13.24 |
| 1424 | 19.05 | " | 7.05 | 1.18 | 37.4 | 0.45 | -80 | 13.35 |
| 1429 | 19.07 | " | 7.03 | 1.18 | 30.9 | 0.40 | -83 | 13.45 |
| 1434 | 19.08 | " | 7.01 | 1.18 | 29.4 | 0.38 | -90 | 13.60 |

TOTAL PURGE ≈ 5 gal

1440 - Collect gw sample VE-EB-33-052103 for Low Concentrations VOCs (3 sets)

- Mob to decon

1450 - START DECON (Method on page 89)

1510 - SET UP ON S-11

OS 5/21/03

(12)

VESTAL S-11 / DECON 5/21/03

INITIAL DTW (TIC) 16.58

DTW w/Pump (TIC) 16.58

TDW (TIC) = 40'

PID (ppm) = 0.0

Pump Depth = 38'

| TIME | DTW (TIC) | FLOW (mL/min) | pH | COND (ms/cm) | TURB (NTU) | D.O (mg/L) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 1530 | 16.62 | 375 | 6.95 | 1.35 | 181 | 3.51 | 12.57 | 60 |
| 1535 | 16.61 | " | 6.97 | 1.35 | 134 | 1.91 | 13.53 | 10 |
| 1540 | " | " | 6.95 | 1.35 | 121 | 1.62 | 14.06 | -6 |
| 1545 | 16.62 | " | 6.99 | 1.35 | 74.3 | 1.33 | 14.34 | -41 |
| 1550 | " | " | 6.96 | 1.34 | 52.9 | 0.92 | 14.44 | -48 |
| 1555 | " | " | 6.93 | 1.35 | 39.1 | 0.91 | 14.56 | -50 |
| 1600 | " | " | 6.91 | 1.34 | 35.6 | 0.90 | 15.24 | -49 |

- TOTAL PURGE ≈ 5 gallons

1610 - Collect gw sample VE-S-11-052103 for Low concentrations VOCs

- Mob to decon

1620 - START DECON (Method on page 89)

1645 Finished decon - collect FIELD BLANK VE-FB-052103 for Low Conc. VOCs (3 sets)

1700 - PACK up coolers - DEPART SITE FOR FEDEX

OS 5/21/03

VESTAL - START DAY 1-32R 5/22/03

0710 - TONY BARROCUEIRO & TOM FOWLER ARRIVE ON-SITE TO CONTINUE LOW-FLOW GROUNDWATER SAMPLING

- TOM CALIBRATES PID (SN 110 - 003408) same method as 5/19/03 : 0.0, 101, 1.7 ppm
- H&S briefing - safety mtg. = dogs & fencing. PPE = HH, STB, SG
- WEATHER 50°F cloudy, high of 60°F expected
- CALIBRATE Horiba U-22 (TOPS 20007) same pH method as on 5/19/03

pH = 3.99 | TURB (NTU) = -0.8

COND (ms/cm) = 4.15 | D.O. (mg/L) = 7.71

0720 - Mob & set up on 1-32R

0725 - SET UP ON 1-32R

INITIAL DTW (TIC) = 27.35' PID (ppm) = NOT ABOVE BKK

DTW w/pump (TIC) = 27.35' Pump depth = 130'

TDW = 152' (TIC)

0740 - Tom goes to get fuel for generator b/c won't start

0810 - Replace generator w/back-up generator b/c generator not working

0815 - START PURGE w/back-up generator

DB 5/22/03



VESTAL - 1-32R | DECON | 1-32AR 5/22/03

| TIME | DTW (TIC) | FLOW (mL/min) | pH | COND (ms/cm) | TURB (NTU) | D.O. (mg/L) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 0818 | 27.35 | 375 | 7.25 | 1.22 | 32 | 10.20 | 12.60 | 100 |
| 0823 | 27.38 | " | 7.77 | 1.43 | 35.9 | 3.49 | 12.32 | -126 |
| 0828 | 27.37 | " | 7.42 | 1.48 | 42.3 | 1.45 | 12.47 | -131 |
| 0833 | " | " | 7.28 | 1.50 | 68.8 | 0.76 | 12.52 | -132 |
| 0838 | " | " | 7.20 | 1.51 | 60.3 | 0.58 | 12.61 | -133 |
| 0843 | " | " | 7.15 | 1.52 | 60.4 | 0.39 | 12.64 | -132 |
| 0848 | " | " | 7.11 | 1.52 | 59.7 | 0.29 | 12.69 | -133 |
| 0853 | " | " | 7.08 | 1.53 | 59.6 | 0.20 | 12.72 | -133 |
| 0858 | " | " | 7.05 | " | 66 | 0.14 | 12.77 | -133 |
| 0903 | " | " | 7.02 | " | 72 | 0.08 | 12.80 | -132 |

TOTAL PURGE ≈ 7 GALLONS

0905 - collect gw sample VE-1-32R-052203 for low concentration VOCs (3 JARS)

- mob to decon

0925 - START DECON (METHOD ON PAGE 89)

0940 FINISH DECON - ORIGINAL GENERATOR NOW WORKING - SO USE THAT ONE

- Mob to 1-32AR

0945 - SET UP ON 1-32AR

INITIAL DTW (TIC) = 14.83 PID = 0. ppm

DTW w/Pump (TIC) = 14.15 Pump depth (TIC) = 34'

TDW (TIC) = 35'

(95)

VESTAL 1-32AR / DECON / S-2 5/22/03

| TIME | DTW (ftTOC) | FLOW (mL/min) | pH | COND (mS/cm) | TURB (NTU) | D.O. (mg/L) | TEMP (°C) | ORP mV |
|---|---|---|---|---|---|---|---|---|
| 0958 | 15.66 | 250 | 6.95 | 0.232 | 149 | 5.25 | 12.01 | 77 |
| 1002 | 16.55 | " | 6.52 | 0.230 | 129 | 1.93 | 12.32 | 65 |
| 1006 | 17.66 | " | 6.35 | 0.239 | 97 | 0.96 | 14.13 | 57 |
| 1010 | 18.00 | 200 | 6.24 | 0.258 | 87.1 | 0.67 | 14.71 | 57 |
| 1014 | 18.70 | " | 6.05 | 0.448 | 67.2 | 0.77 | 15.42 | 53 |
| 1018 | 19.60 | " | 6.01 | 0.479 | 53.5 | 0.54 | 16.36 | 51 |
| 1022 | 20.35 | " | 6.02 | 0.551 | 55.1 | 0.43 | 16.39 | 44 |
| 1026 | 20.60 | " | 6.04 | 0.524 | 50 | 0.43 | 16.86 | 47 |

- TOTAL PURGE ≈ 3 GALL

1030 - Collect gw SAMPLE VE-1-32AR-052203 FOR LOW CONCENTRATION VOCs (3 STARS)
- Need to collect b/c of loss of head in well

mob to decon pad

1040 - START DECON OF PUMP (Method on page 89)
1055 DTW (TOC) 1-22 27.25'
- Finish decon - mob to S-2

1100 - SET UP ON S-2
INITIAL DTW (TOC) = 18.11 PID (ppm) = 0
DTW w/pump (TOC) = 18.01 Pump depth (TOC) = 30'
TDW (TOC) 32'

OB 5/22/03

VESTAL ~~1-32AR~~ S-2 / DECON / S6 5/22/03

| TIME | DTW (TOC) | FLOW (mL/min) | pH | COND (mS/cm) | TURB (NTU) | D.O (mg/L) | TEMP (°C) | ORP mV |
|---|---|---|---|---|---|---|---|---|
| 1119 | 18.54 | 425 | 6.40 | 7.35 | 161 | 2.88 | 13.36 | -14 |
| 1123 | 18.56 | 300 | 5.74 | 10.8 | 105 | 1.17 | 14.60 | 5 |
| 1127 | 18.56 | " | 5.75 | 10.2 | 50.6 | 0.67 | 15.03 | -4 |
| 1131 | 18.58 | 375 | 5.80 | 9.6 | 35.8 | 0.45 | 15.19 | -12 |
| 1135 | " | " | 5.84 | 9.1 | 32.9 | 0.30 | 15.31 | -19 |
| 1139 | 18.60 | " | 5.86 | 9.7 | 35.1 | 0.23 | " | -24 |
| 1143 | 18.61 | " | 5.89 | 9.35 | 40.5 | 0.13 | 15.25 | -29 |

- TOTAL PURGE ≈ 5 GALLONS

1150 - Collect gw sample VE-S-2-052203 for LOW CONCENTRATION VOCs (3 STARS)
- mobi to decon

1200 - START DECON OF PUMP (Method on PAGE 89)
1215 - FINISH DECON - Mob to S-6

1225 - SET UP ON S-6
INITIAL DTW (TOC) = 11.43 PID (ppm) 0.5
DTW w/pump (TOC) = 11.43 Pump depth (TOC) = 40'
TOTAL = 41'

OB 5/22/03

VESTAL S-6 / DECON / S-8 — 5/22/03

| TIME | DTW (TIC) | FLOW (mL/min) | pH | COND (ms/cm) | TURB (NTU) | D.O (mg/L) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 1240 | 11.43 | 200 | 7.41 | Ø.506 | 70.9 | 4.59 | 12.41 | -89 |
| 1245 | " | " | 7.43 | Ø.498 | 28.4 | 2.05 | 13.71 | -73 |
| 1250 | " | " | 7.46 | Ø.482 | 22.1 | 1.38 | 14.15 | -64 |
| 1255 | " | " | 7.53 | Ø.531 | 18.1 | Ø.98 | 14.52 | -64 |
| 1300 | " | " | 7.78 | Ø.552 | 16.1 | Ø.62 | 14.57 | -66 |
| 1305 | " | " | 7.93 | Ø.559 | 15.8 | Ø.43 | 14.73 | -62 |
| 1310 | " | " | 8.07 | Ø.631 | 14.2 | Ø.33 | " | -150 |
| 1315 | " | " | 7.65 | Ø.760 | 13.6 | Ø.20 | 14.83 | -172 |
| 1320 | " | " | 7.06 | 1.15 | 14 | Ø.17 | 15.03 | -153 |
| 1325 | " | " | 6.82 | 1.46 | 15.4 | Ø.18 | 15.22 | -146 |
| 1330 | " | " | 6.76 | 1.56 | 17.2 | Ø.08 | 15.08 | -143 |
| 1335 | " | " | 6.74 | 1.58 | 19.7 | Ø.03 | 15.48 | -142 |
| 1340 | " | " | 6.73 | 1.62 | 14.9 | Ø.00 | 15.27 | -141 |

TOTAL PURGE = 5 GALLONS

1345 - Collect gw sample VE-S-6-Ø522Ø3 for low concentration VOCs (3 JARS)

- mob to decon

1355 - START DECON (Method on pg 89)

1410 - FINISH decon & mob to S-8

1415 - Set up on S-8

INITAL DTW ('TIC) = 7.08 PID (ppm) = Ø

DTW w/pump ('TIC) = 7.03 Pump depth ('TIC) - ~~24~~ 8'

TOTAL DEPTH ('TIC) = 25'



VESTAL S-8 — 5/22/03

| TIME | DTW (TIC) | FLOW (mL/min) | pH | COND (mS/cm) | TURB (NTU) | D.O (mg/L) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 1437 | 7.40 | 225 | 7.19 | Ø.973 | 33.6 | 2.77 | 14.01 | -119 |
| 1442 | 7.25 | " | 7.03 | Ø.974 | 24.2 | 1.14 | 15.13 | -128 |
| 1447 | 7.37 | " | 6.95 | Ø.962 | 10.3 | 1.27 | 16.67 | -130 |
| 1452 | 7.56 | " | " | Ø.947 | 12.6 | 1.22 | 15.32 | -128 |
| 1457 | 7.45 | " | " | Ø.937 | 15 | 1.22 | 15.07 | -122 |
| 1502 | | | | | | | | |

- WELL DRY - Pump was only able to be lowered to ≈ 8' below TIC
- BOTTOM OF WELL FEELS LIKE JUST SILT AT ≈ 8' bgs - Unable to work pump any lower
- CALL TOM FOWLER & HE SAYS TO COLLECT SAMPLE even though screen is silted to 8' bgs - TOTAL PURGE FROM well = 4 GALLONS

1530 - Collect gw sample VE-S-8-Ø522Ø3 for Low concentration VOCs (3 JARS)

- mob to decon

1545 - START DECON (Method on page 89)

1610 - Collect FB - VE-FB-Ø522Ø3 same as 5/21/03

1630 - OFF-SITE FOR FedEx

CB 5/22/03

(99)

VESTAL - START OF DAY / S-1 5/23/03

0700 - TOM FOWLER & TONY BARROCCIERE ARRIVE ON SITE TO CONTINUE GW - FLOW GW SAMPLING

- H&S BRIEFING
- CALIBRATE PID (SN - 110344198) SOME METHOD AS 5/19/03

ZERO = 0.6 SPAN = 101 ppm BACKGROUND = 1.6 ppm

- CALIBRATE Horiba U4-22 (MFG SN TRR05 2009)

pH = 3.98 TURB (NTU) = -2.7

COND ms/cm = 4.50 D.O. (mg/L) = 7.67

- H&S TP = DRIVING SAFETY
- PPE = LH, SG, SIB WEATHER - OVERCAST × 55°F

0715 - SET UP ON S-1

INITIAL DTW ('TIC) 19.34 PID (PPM) = 0.0

DTW W/PUMP ('TIC) 19.08 PUMP DEPTH ('TIC) = 22'

TDW ('TIC) = 25' 32'

| TIME | DTW ('TIC) | FLOW (mL/min) | pH | COND (ms/cm) | TURB (NTU) | D.O (mg/L) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 0747 | 20.31 | 250 | 6.15 | 1.21 | 158 | 4.24 | 10.32 | 113 |
| 0751 | 20.34 | " | 6.90 | 1.21 | 131 | 1.01 | 12.60 | -31 |
| 0755 | 20.38 | " | 6.91 | 1.21 | 107 | 0.75 | 13.16 | -42 |
| 0759 | 20.41 | " | 6.92 | 1.22 | 78.7 | 0.55 | 13.66 | -46 |

CONTINUED ON NEXT PAGE

OB 5/23/03

(100)

VESTAL S-1 / DECON / S-7 5/23/03

| TIME | DTW ('TIC) | FLOW (mL/min) | pH | COND (ms/cm) | TURB (NTU) | D.O. (mg/L) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 0803 | 20.42 | 250 | 6.91 | 1.22 | 67.1 | 0.40 | 13.82 | -41 |
| 0807 | " | " | " | " | 61.6 | 0.31 | 13.95 | -37 |
| 0811 | " | " | 6.90 | 1.22 | 33.2 | 0.25 | 14.04 | -34 |
| 0815 | " | " | 6.89 | 1.23 | 24.9 | 0.20 | 14.11 | -33 |

TOTAL PURGE ≈ 4 GALLONS

0820 - COLLECT GW SAMPLE VE-S-1-050323@3 for LOW CONCENTRATION VOCs (3 JARS)

- MOB TO DECON
- 0830 - START DECON (CHECKED ON PAGE 89
- TOM MEASURES 1-22 DTW = 23.30 'TIC
- 0845 - FINISH DECON & SET UP ON S-7

INITIAL DTW ('TIC) = 16.35 PID (ppm) = 0

DTW (W/PUMP ('TIC) = 18.99 PUMP DEPTH ('TIC) =

TOTAL DEPTH = 32' 'TIC)

| TIME | DTW ('TIC) | FLOW (mL/min) | pH | COND (ms/cm) | TURB (NTU) | D.O (mg/L) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 0854 | 17.12 | 200 | 6.74 | 0.705 | 401 | 4.64 | 13.12 | 8 |
| 0858 | 17.14 | " | 6.35 | 0.706 | 999* | 1.40 | 13.22 | 12 |
| 0902 | 17.16 | " | 6.22 | 0.728 | 9999 | 0.74 | 13.93 | 10 |
| 0906 | 17.18 | " | 6.21 | 0.773 | 633 | 0.48 | 15.33 | -7 |
| 0910 | 17.21 | " | 6.34 | 0.837 | 418 | 0.39 | 15.68 | -39 |

CONTINUED ON NEXT PAGE

OB 5/23/03

(99)

VESTAL S-7 / Decon / Demob 5/23/03

| TIME | DTW (TIC) | FLOW (ml/min) | pH | COND (mS/cm) | TURB (NTU) | D.O. (mg/L) | TEMP (°C) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| 0914 | 17.24 | 200 | 6.49 | 0.924 | 195 | 0.33 | 15.79 | -61 |
| 0918 | 17.25 | " | 6.50 | 0.961 | 126 | 0.29 | 15.63 | -75 |
| 0922 | 17.27 | " | 6.52 | 0.999 | 98.7 | 0.2 | 15.62 | -81 |
| 0926 | 17.28 | " | 6.54 | 1.11 | 70.3 | 0.18 | 15.76 | -90 |
| 0930 | 17.29 | " | 6.55 | 1.13 | 60.7 | 0.13 | 15.89 | -94 |
| 0934 | 17.31 | " | 6.55 | 1.14 | 52.9 | 0.08 | 15.95 | -96 |
| 0938 | 17.31 | " | 6.56 | 1.16 | 47.9 | 0.03 | 15.92 | -100 |

- TOTAL PURGE ≈ 5 GALLONS

0945 - collect gw sample VE-S-7-052303 for Low Concentration VOCs (3 VOAs)

- mob to Decon

0955 - START DECON (METHOD ON PAGE 99)

1110 - FINISH DECON

1015 - Collect FIELD BLANK VE-FB-052303 for LOW CONC. VOCs (3 VOAs)

1030 - SUPPLY INVENTORY

- TEFLON LINED TUBING for each well (2 sizes small, large)
- YELLOW TYVEK - VOA VIALS, HNO3 bottles
- GARBAGE BAGS, TUBS, ALCONOX, BUCKETS, BRUSH
- 1 small, 1 LARGE COOLER, 1 medium cooler
- 1/4 bag Perlite

(100)

VESTAL / DEMOB 5/23/03

- WATER PUMP
- 2 long electrical cords
- LIDS for buckets
- 2 Boxes soil samples
- E & E Paperwork, labels etc
- 1-5 gallon safety can, 1-3 gal. safety can
- DUCT TAPE & PACKING TAPE

1100 - TONY FAULKS OFF-SITE FOR FEDEX

- SITE CLEANED UP & SECURED - TONY OFF-SITE FOR OFFICE

# APPENDIX B
# Validation Report and Laboratory Data

# CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organic Analysis

PROJECT NO.: 0305234

LABORATORY: Ecology and Environment SITE: Vestal Well 1-1

DATA ASSESSMENT

The current SOP No. HW-13 (Revision 3), July 2001 for CLP Organics Review and Preliminary Review has been applied.

All data were found to be valid and acceptable except those analytes which have been rejected, "R" (unusable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's Signature: Cecelia M. Marek Date: 7/6/03

Verified By: _____ Date: _____

## CLP DATA ASSESSMENT

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

All samples were analyzed within specified holding times, therefore, no action was required.

2. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

All samples exhibited low recovery for bromoform-d surrogate. The laboratory stated that the low recovery was due to a back-exchange which resulted in a breakdown of the surrogate. Due to this anomaly, non-detects for the associated target compounds (dibromochloromethane, 1,2-dibromoethane, and bromoform) were qualified as estimated (UJ), instead of unusable (R). Positive results for the associated compounds were estimated (J) in all samples.
In addition, 2 other samples exhibited high recoveries for at least 1 surrogate. As a result, trans-1,2-dichloroethene was estimated in VE-S-2-052203 and 1,1-dichloroethane and chloroform were qualified "J" in sample VE-S-11-052103. Although cis-1,2-dichloroethene and vinyl chloride were associated with a failing surrogate in VE-S-2-052203, they were not qualified because the reported values were derived from the dilution analysis.

## CLP DATA ASSESSMENT

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Spike analyses were not designated on any sample in this data set. The MS/MSD performed on sample VE-1-29A-05 in 0305226 were satisfactory.

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than the blank contaminant level (2 or 10 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A) Method blank contamination:

Bromoform: all samples except VE-FB-052103, VE-TB-052103, VE-FB-052203, VE-TB-052203, VE-FB-052303, VE-TB-052303

All TICs at retention times 13.9, 18.8, 22.3, and 24.8 were qualified "R" in all samples except the field and trip blanks due to laboratory contamination.

**storage blank**

methylene chloride:VE-EB31-052103DL, VE-EB33-052103DL, VE-S2-052203DL, VE-S-11-052103, VE-S-11-052103DL, VE-S6-052203DL, VE-S7-052303DL

B) Field or rinse blank contamination:

C) Trip blank contamination:

toluene: VE-1-32R-052203, VE-1-32AR-052203

chloromethane: VE-1-32R-052203, VE-1-32AR-052203, VE-EB31-052103, VE-EB31-052103DL, VE-EB33-052103, VE-EB33-052103DL, VE-EB41-052103, VE-EB42-052103, VE-S-1-052303, VE-S-1-052303RA, VE-S-11-052103, VE-S-11-052103DL, VE-S2-052203, VE-S2-052203DL, VE-S6-052203, VE-S6-052203DL, VE-S7-052303, VE-S7-052303DL, VE-S8-052203

## CLP DATA ASSESSMENT

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene and for semi-volatiles Decafluorotriphenyl-phosphine (DFTPP).

If the mass calibration is in error, all associated data will be classified as unusable "R".

All criteria were met.

## CLP DATA ASSESSMENT

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be <0.05 (< 0.01 for poor performers) in both initial and continuing calibrations. A value < 0.05, < 0.01 for poor performers, indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

All response factors were acceptable.

## CLP DATA ASSESSMENT

7. CALIBRATION:

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD and %D must be $\leq$ 30%, $\leq$ 50% for the poor performers. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria, non-detects data may be qualified "R".

For the PEST/PCB fraction, if %RSD exceeds 20% for all analytes except for the two surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the sample shown were qualified for %RSD and %D:

Bromomethane was estimated (UJ) in samples VE-TB-052103, VE-FB-052103, VE-EB-41-052103, VE-EB-42-052103, VE-EB-31-052103, VE-TB-052203, and VE-1-32R-052203 for exceeding %D criteria in the associated calibration verification.

## CLP DATA ASSESSMENT

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must fall within the limits of ± 40% of the associated continuing calibration standard. The retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (± 40%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgement to determine either partial or total rejection of the data for that sample fraction.

All internal standards were within limits.

## CLP DATA ASSESSMENT

9. COMPOUND IDENTIFICATION:

A) Volatile and Semi-Volatile Fractions:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

N/A

B) Pesticide Fraction:

The retention times of reported compounds must fall within the calculated retention time (RT) windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10ng/ml in the final sample extract.

N/A

## CLP DATA ASSESSMENT

10. CONTRACT PROBLEMS NON-COMPLIANCE:

11. FIELD DOCUMENTATION:

12. OTHER PROBLEMS:
The laboratory stated that the bromoform contamination reported in all blanks and samples was the result of a "back-exchange" that occurred when the deuterated standard was diluted.

13. This package contains re-extractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified as not to be used.

| | |
|---|---|
| VE-EB-31-052103DL | (H9662) |
| VE-EB-33-052103DL | (H9663) |
| VE-S-11-052103DL | (H9664) |
| VE-S-2-052203DL | (H9677) |
| VE-S-6-052203DL | (H9678) |
| VE-S-7-052303DL | (H9679) |
| VE-S-1-052303RA | (H9682) |

DPO: [ ]ACTION [ ]FYI REGION II

# ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

Work Order No.: 0305234

LABORATORY: E and E DATA USER: EPA Region II

SOW: OLM03.2 REVIEW COMPLETION DATE: 7/6/03

NO. OF SAMPLES: 18 WATER ____ SOIL ____ OTHER

REVIEWER: [ ] ESD [ ] ESAT [ ] OTHER, CONTRACTOR TTFWI

| QC ITEM | VOA | BNA | PCB | | |
|---|---|---|---|---|---|
| HOLDING TIMES | O | | | | |
| GC-MS PERFORMANCE | O | | | | |
| INITIAL CALIBRATIONS | O | | | | |
| CONTINUING CALIBRATIONS | O | | | | |
| FIELD BLANKS(F = N/A) | O | | | | |
| LABORATORY BLANKS | O | | | | |
| SURROGATES | O | | | | |
| MATRIX SPIKE/DUPLICATES | O | | | | |
| QC SAMPLES(LCS, PVS) | N/A | | | | |
| INTERNAL STANDARDS | O | | | | |
| COMPOUND IDENTIFICATION | O | | | | |
| COMPOUND QUANTITATION | O | | | | |
| SYSTEM PERFORMANCE | O | | | | |
| OVERALL ASSESSMENT | M | | | | |

O = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as either estimated or unusable.
Z = More than about 5% of the data points are qualified as unusable.

DPO ACTION ITEMS:

AREAS OF CONCERN:

DATA REJECTION SUMMARY

Type of Review: Level 4 Date: 7/6/03 Work Order No.: 0305234

Site Name: Vestal Well Lab Name: Ecology & Environment, Inc.

Reviewer's Initials: CW Number of Samples: 18W

## Analytes Rejected Due to Exceeding Review Criteria For:

No. of Compounds/No. of Fractions (Samples)

| | Surrogates | Holding Time | Calibration | Contamination | ID | Internal Standards | Other | Total # of Samples | Total # Rejected/Total # in All Samples |
|---|---|---|---|---|---|---|---|---|---|
| VOA(50) | 0 | 0 | 0 | 0 | 0 | 0 | | 25 | 0 / 1250 = 0 % |
| ACID(14) | | | | | | | | | / = % |
| B/N(51) | | | | | | | | | / = % |
| PEST(21) | | | | | | | | | / = % |
| PCB(7) | | | | | | | | | / = % |

NOTE: ASTERISK (*) INDICATES ADDITIONAL EXCEEDANCES OF REVIEW CRITERIA.

## Analytes Estimated Due to Exceeding Review Criteria For:

No. of Compounds/No. of Fractions (Samples)

| | Surrogates | Holding Time | Calibration | Contamination | ID | Internal Standards | Other | Total # of Samples | Total # Estimated/Total # in All Samples |
|---|---|---|---|---|---|---|---|---|---|
| VOA(50) | 75 | 0 | 7 | 53 | 0 | 0 | | 25 | 135 / 1250 = 11 % |
| ACID(14) | | | | | | | | | / = % |
| B/N(51) | | | | | | | | | / = % |
| PEST(21) | | | | | | | | | / = % |
| PCB(7) | | | | | | | | | / = % |

NOTE: ASTERISK (*) INDICATES ADDITIONAL EXCEEDANCES OF REVIEW CRITERIA.

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-1-32A
R-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9665

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.244 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-32A
R-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9665

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.103 | J |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.53 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.144 | J |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-32A
R-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9665

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VE-1-32A
R-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9665

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | ~~1.45~~ | JB |
| 2. | 0-00-0 | N-DECANE-D22 | 22.28 | ~~1.53~~ | NJB |
| 3. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | ~~0.893~~ | NJ |
| 4. | | | | | |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-1-32R-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9646

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | ~~0.282~~ | ~~JB~~ U |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.578 | |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-32R-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9646

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | ~~0.105~~ | ~~J~~ |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.58 | ~~B~~ |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-32R-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9646

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-1-32R-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9646

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.45 | JB |
| 2. | 0-00-0 | N-DECANE-D22 | 22.28 | 1.20 | NJB |
| 3. | 0-00-0 | N-DECANE-D22 | 24.85 | 0.671 | NJ |
| 4. | | | | | |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-EB-31-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9641

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | ~~0.268~~ | ~~JB~~ U |
| 75-01-4 | Vinyl Chloride | 0.655 | |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 1.95 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.522 | |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.02 | |
| 156-59-2 | cis-1,2-Dichloroethene | 8.20 | |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.316 | J |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | ~~44.1~~ 55.3 | E |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-EB-31-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9641

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.628 | |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.69 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.311 | J |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-EB-31-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9641

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-EB-31-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9641

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | ~~1.50~~ | ~~JB~~ R |
| 2. | | UNKNOWN | 18.78 | ~~0.507~~ | ~~JB~~ |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | ~~1.88~~ | ~~NJB~~ |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | ~~1.51~~ | ~~NJ~~ |
| 5. | | | | | |
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65

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-EB-33-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9658

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.376 | J |
| 74-87-3 | Chloromethane | 0.252 | JB |
| 75-01-4 | Vinyl Chloride | 14.6 | |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 23.0 | |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 5.10 | |
| 156-59-2 | cis-1,2-Dichloroethene | ~~141~~ | E |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.850 | |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 8.16 | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-EB-33-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9658

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.531 | |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.607 | |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.406 | J |
| 1330-20-7 | Xylene (total) | 0.112 | J |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.83 | B |
| 98-82-8 | Isopropylbenzene | 0.444 | J |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 2.13 | |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VE-EB-33-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9658

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-EB-33-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9658

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 19 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 13.90 | ~~1.72~~ JB | ~~JB~~ R |
| 2. | | UNKNOWN | 18.79 | ~~1.31~~ JB | ~~JB~~ R |
| 3. | 103-65-1 | BENZENE, PROPYL- | 21.79 | 1.62 | NJ |
| 4. | 0-00-0 | N-DECANE-D22 | 22.29 | ~~3.54~~ NJB | ~~NJB~~ R |
| 5. | 611-14-3 | BENZENE, 1-ETHYL-2-METHYL- | 22.72 | 2.85 | NJ |
| 6. | 526-73-8 | BENZENE, 1,2,3-TRIMETHYL- | 23.14 | 7.56 | NJ |
| 7. | 135-98-8 | BENZENE, (1-METHYLPROPYL)- | 23.50 | 1.43 | NJ |
| 8. | 622-96-8 | BENZENE, 1-ETHYL-4-METHYL- | 23.98 | 2.75 | NJ |
| 9. | | BUTYLBENZENE ISOMER | 24.30 | 0.526 | J |
| 10. | 49826-53-1 | BICYCLO[3.2.1]OCT-2-ENE, 3-M | 24.67 | 1.23 | NJ |
| 11. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | ~~2.20~~ NJ | ~~NJ~~ R |
| 12. | 1074-55-1 | BENZENE, 1-METHYL-4-PROPYL- | 24.97 | 1.66 | NJ |
| 13. | 2870-04-4 | BENZENE, 2-ETHYL-1,3-DIMETHY | 25.35 | 2.86 | NJ |
| 14. | 2870-04-4 | BENZENE, 2-ETHYL-1,3-DIMETHY | 25.82 | 1.20 | NJ |
| 15. | 1758-88-9 | BENZENE, 2-ETHYL-1,4-DIMETHY | 26.04 | 1.11 | NJ |
| 16. | 527-53-7 | BENZENE, 1,2,3,5-TETRAMETHYL | 26.10 | 1.51 | NJ |
| 17. | 54120-62-6 | BENZENE, ETHYL-1,2,4-TRIMETH | 26.48 | 0.714 | NJ |
| 18. | 95-93-2 | BENZENE, 1,2,4,5-TETRAMETHYL | 26.74 | 1.30 | NJ |
| 19. | | PENTYLBENZENE ISOMER | 27.52 | 0.656 | J |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-EB-41-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9639

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.285 | JB U |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 1.76 | |
| 75-34-3 | 1,1-Dichloroethane | 0.349 | J |
| 156-59-2 | cis-1,2-Dichloroethene | 4.94 | |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.860 | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-EB-41-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9639

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.509 | |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.91 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VE-EB-41-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9639

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VE-EB-41-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9639

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.92 | 1.53 | JB |
| 2. | | UNKNOWN | 18.80 | 0.553 | JB |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 1.83 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.13 | NJ |
| 5. | | | | | |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-EB-42-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9640

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.277 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.770 | |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-EB-42-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9640

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.575 | J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.79 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.100 | J |
| | | | |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VE-EB-42-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9640

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-EB-42-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9640

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | 1.50 | JB |
| 2. | 0-00-0 | N-DECANE-D22 | 22.28 | 1.82 | NJB |
| 3. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | 1.58 | NJB |
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# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-FB-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-07A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9644

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.284 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U J |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.114 | J |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.136 | J |

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-FB-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-07A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9644

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U J |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.30 | B J |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VE-FB-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-07A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9644

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-FB-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-07A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9644

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.92 | 1.42 | JB |
| 2. | | UNKNOWN | 18.80 | 0.518 | JB |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 1.84 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.48 | NJ |
| 5. | | | | | |
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-FB-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-07A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9676

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.239 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-FB-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-07A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9676

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.34 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
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# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-FB-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9675

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.253 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-FB-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9675

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U J |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.44 | B J |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-FB-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9675

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-FB-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9675

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.54 | JB |
| 2. | | UNKNOWN | 18.79 | 0.651 | JB |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.37 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.79 | NJB |
| 5. | | | | | |
| 6. | | | | | |
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1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-1-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9671

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.263 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 2.36 | |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.171 | J |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.356 | J |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-1-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9671

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.65 | ~~B~~ U |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-1-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9671

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

EPA SAMPLE NO.

VE-S-1-052303

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9671

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | ~~1.55~~ | ~~JB~~ |
| 2. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 18.78 | 0.547 | NJ |
| 3. | 0-00-0 | N-DECANE-D22 | 22.27 | 2.16 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.53 | NJB |
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# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-11-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9660

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.453 | J |
| 74-87-3 | Chloromethane | ~~0.241~~ | JB |
| 75-01-4 | Vinyl Chloride | 2.24 | |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 1.27 | |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 21.7 | |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.882 | |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.891 | |
| 75-34-3 | 1,1-Dichloroethane | 21.1 | |
| 156-59-2 | cis-1,2-Dichloroethene | 193 | E |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | ~~97.0~~ | E |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | ~~116~~ | E |

1B

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-11-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9660

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.171 | J |
| 127-18-4 | Tetrachloroethene | 1.02 | |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.529 | J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U J |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 5.15 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1.69 | |
| 67-66-3 | Chloroform | 0.369 | J |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.120 | J |
| | | | |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VE-S-11-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9660

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-S-11-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9660

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | 1.68 | JB |
| 2. | | UNKNOWN | 18.79 | 0.571 | JB |
| 3. | 0-00-0 | N-DECANE-D22 | 22.27 | 2.08 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.65 | NJB |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-S-2-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9652

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.692 | |
| 74-87-3 | Chloromethane | 0.280 | JB |
| 75-01-4 | Vinyl Chloride | 245 | E |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 24.3 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 26.8 | E |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.946 | |
| 75-34-3 | 1,1-Dichloroethane | 98.4 | E |
| 156-59-2 | cis-1,2-Dichloroethene | 356 | E |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 69.7 | E |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.993 | |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 44.9 | E |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-2-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9652

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 2.36 | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.113 | J |
| 1330-20-7 | Xylene (total) | 0.308 | J |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.53 | B |
| 98-82-8 | Isopropylbenzene | 0.342 | J |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 1.83 | |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-2-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9652

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

EPA SAMPLE NO.

VE-S-2-052203

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9652

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 12 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | UNKNOWN | 1.99 | 1.84 | J |
| 2. | | UNKNOWN | 2.35 | 0.898 | J |
| 3. | | UNKNOWN | 13.91 | ~~1.59~~ | JB |
| 4. | 0-00-0 | N-DECANE-D22 | 22.27 | 2.90 | NJB |
| 5. | 611-14-3 | BENZENE, 1-ETHYL-2-METHYL- | 22.73 | 0.876 | NJ |
| 6. | 98-06-6 | BENZENE, TERT-BUTYL- | 23.06 | 0.942 | NJ |
| 7. | 135-98-8 | BENZENE, (1-METHYLPROPYL)- | 23.50 | 0.772 | NJ |
| 8. | 611-14-3 | BENZENE, 1-ETHYL-2-METHYL- | 23.97 | 0.598 | NJ |
| 9. | 622-97-9 | BENZENE, 1-ETHENYL-4-METHYL- | 24.29 | 0.580 | NJ |
| 10. | 0-00-0 | N-DECANE-D22 | 24.85 | ~~2.63~~ | NJB |
| 11. | 767-58-8 | INDAN, 1-METHYL- | 25.42 | 1.23 | NJ |
| 12. | 4912-92-9 | 1H-INDENE, 2,3-DIHYDRO-1,1-D | 25.76 | 0.816 | NJ |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-S-6-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9654

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.267 | JB U |
| 75-01-4 | Vinyl Chloride | 0.475 | J |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.352 | J |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.426 | J |
| 156-59-2 | cis-1,2-Dichloroethene | 26.2 | E |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 65.2 | E |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-6-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9654

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.310 | ~~J~~ J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U J |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.80 | ~~B~~ J |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-6-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9654

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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EPA SAMPLE NO.

VE-S-6-052203

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9654

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.62 | JB |
| 2. | | UNKNOWN | 18.79 | 0.661 | JB |
| 3. | 0-00-0 | N-DECANE-D22 | 22.27 | 2.35 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.84 | 1.81 | NJB |
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1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-7-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9672

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | ~~0.272~~ | JB |
| 75-01-4 | Vinyl Chloride | ~~54.9~~ | E |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 8.27 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.183 | J |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | ~~45.4~~ | E |
| 156-59-2 | cis-1,2-Dichloroethene | ~~46.0~~ | E |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | ~~164~~ | E |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.147 | J |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 23.7 | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-7-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9672

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.281 | J |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.139 | J |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.83 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.769 | |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-7-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9672

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-S-7-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9672

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.54 | JB |
| 2. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.11 | NJB |
| 3. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.59 | NJB |
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-S-8-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9656

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.500 -0.246 JB | U |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-8-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9656

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U J |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.84 | ~~B~~ |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.116 | J |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-8-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9656

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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EPA SAMPLE NO.

VE-S-8-052203

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9656

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.56 | JB |
| 2. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 18.79 | 0.528 | NJ |
| 3. | 0-00-0 | N-DECANE-D22 | 22.27 | 2.05 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.40 | NJB |
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5 of 8

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-TB-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9638

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.318 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.114 | JB |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-TB-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9638

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.139 | J |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U J |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.30 | B J |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VE-TB-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9638

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-TB-052103

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05234-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9638

Level: (low/med) LOW Date Received: 05/22/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | 1.50 | JB |
| 2. | | UNKNOWN | 18.78 | 0.603 | JB |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.18 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.60 | NJ |
| 5. | | | | | |
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1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-TB-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9645

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.281 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | UJ |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.112 | JB |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-TB-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9645

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.142 | J |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.11 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-TB-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9645

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-TB-052203

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9645

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.45 | JB |
| 2. | | UNKNOWN | 18.79 | 0.512 | JB |
| 3. | 0-00-0 | N-DECANE-D22 | 22.27 | 1.84 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.44 | NJ |
| 5. | | | | | |
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1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-TB-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9674

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.258 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.118 | JB |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-TB-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9674

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.122 | J |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.42 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |



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VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-TB-052303

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9674

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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EPA SAMPLE NO.

VE-TB-052303

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05254-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9674

Level: (low/med) LOW Date Received: 05/24/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.56 | JB |
| 2. | | UNKNOWN | 18.78 | 0.649 | JB |
| 3. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 22.28 | 2.40 | NJ |
| 4. | 0-00-0 | N-DECANE-D22 | 24.84 | 1.93 | NJB |
| 5. | | | | | |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLKLW2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-50-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9629A

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.280 | J |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.114 | J |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |



827

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-50-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9629A

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.27 | |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.134 | J |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-50-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9629A

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |



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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLKLW2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-50-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9629A

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | 1.63 | J |
| 2. | | UNKNOWN | 18.78 | 0.613 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.27 | 2.16 | NJ |
| 4. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | 1.67 | NJ |
| 5. | | | | | |
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# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-51-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9651A

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.276 | J |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-51-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9651A

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.38 | |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
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VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-51-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9651A

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |



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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKLW3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-51-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9651A

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.92 | 1.56 | J |
| 2. | | UNKNOWN | 18.79 | 0.585 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.30 | NJ |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.77 | NJ |
| 5. | | | | | |
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLKLW4

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-52-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9669

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.238 | J |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.435 | J |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW4

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-52-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9669

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.66 | |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW4

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-52-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9669

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

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EPA SAMPLE NO.

VBLKLW4

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-52-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9669

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.92 | 1.54 | J |
| 2. | | UNKNOWN | 18.79 | 0.679 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.43 | NJ |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.91 | NJ |
| 5. | | | | | |
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

STORAGE BLANK

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-08A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9683

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.244 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.194 | JB |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

STORAGE BLANK

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-08A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9683

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 1.37 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

STORAGE BLANK

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-08A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9683

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

STORAGE BLANK

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

Matrix: (soil/water) WATER Lab Sample ID: 05247-08A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9683

Level: (low/med) LOW Date Received: 05/23/03

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | 1.64 | JB |
| 2. | | UNKNOWN | 18.80 | 0.535 | JB |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 1.94 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.52 | NJB |
| 5. | | | | | |
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578

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VIBLK1

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9653

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.252 | J |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLK1

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9653

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.91 | |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLK1

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9653

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

EPA SAMPLE NO.

VIBLK1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9653

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.67 | J |
| 2. | | UNKNOWN | 18.79 | 0.687 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.52 | NJ |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 2.00 | NJ |
| 5. | | | | | |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VIBLK2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9655

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.238 | J |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLK2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9655

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.84 | |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLK2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9655

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |



708

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VIBLK2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9655

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.55 | J |
| 2. | | UNKNOWN | 18.78 | 0.589 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.40 | NJ |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.92 | NJ |
| 5. | | | | | |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VIBLK3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9659

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.255 | J |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLK3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9659

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.67 | |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLK3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9659

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VIBLK3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9659

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.61 | J |
| 2. | | UNKNOWN | 18.79 | 0.651 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.30 | NJ |
| 4. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | 1.84 | NJ |
| 5. | | | | | |
| 6. | | | | | |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VIBLK4

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9661

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.253 | J |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLK4

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9661

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.52 | |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLK4

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9661

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VIBLK4

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9661

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.55 | J |
| 2. | | UNKNOWN | 18.80 | 0.576 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.20 | NJ |
| 4. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | 1.76 | NJ |
| 5. | | | | | |
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# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLK5

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9673

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.253 | J |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.446 | J |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLK5

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9673

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.85 | |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLK5

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9673

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VIBLK5

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305234

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

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9673

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

% Moisture: not dec. _____ Date Analyzed: 05/31/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | 1.58 | J |
| 2. | | UNKNOWN | 18.77 | 0.607 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.27 | 2.29 | NJ |
| 4. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | 1.72 | NJ |
| 5. | | | | | |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-1-22-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9621

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.336 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.103 | J |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.536 | |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-22-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9621

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.965 | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U J |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 5.16 | B U J |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-22-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9621

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
# TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-1-22-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-03A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9621

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | 1.56 | JB |
| 2. | | UNKNOWN | 18.79 | 0.697 | JB |
| 3. | 0-00-0 | N-DECANE-D22 | 22.27 | 2.23 | NJB |
| 4. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.84 | 1.56 | NJB |
| 5. | | | | | |
| 6. | | | | | |
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-1-24-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9620

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | ~~0.295~~ 0.500 | ~~JB~~ U |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.118 | J |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.910 | |
| 156-59-2 | cis-1,2-Dichloroethene | 1.19 | |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 4.39 | |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-24-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9620

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.523 | |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 5.32 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | ~~0.103~~ | ~~J~~ |
| | | | |

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-24-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9620

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-1-24-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-02A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9620

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | 1.58 | JB |
| 2. | | UNKNOWN | 18.79 | 0.672 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.27 | 2.38 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.78 | NJ |
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-1-29-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9622

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | ~~0.285~~ | ~~JB~~ U |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 6.21 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 3.89 | |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.182 | J |
| 75-34-3 | 1,1-Dichloroethane | 8.85 | |
| 156-59-2 | cis-1,2-Dichloroethene | 58.6 | ~~E~~ |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 80.9 | E |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | ~~40.3~~ | ~~E~~ |
| | | | |

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-29-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9622

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.179 | J |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 5.04 | ~~B~~ U |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.242 | J |
| 67-66-3 | Chloroform | 0.318 | JB U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-29-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9622

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-1-29-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-04A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9622

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | ~~1.48~~ | ~~JB~~ |
| 2. | | UNKNOWN | 18.79 | 0.548 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.12 | NJB |
| 4. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | 1.53 | NJB |
| 5. | | | | | |
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-1-29A-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9635

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.282 | JB U |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 2.26 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.888 | |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 9.45 | |
| 156-59-2 | cis-1,2-Dichloroethene | 22.4 | |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 9.93 | |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 4.12 | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-29A-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9635

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | ~~0.144~~ | ~~J~~ UJ |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.59 | ~~B~~ U |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.132 | J |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
VE-1-29A-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9635

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-1-29A-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-06A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9635

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.89 | 1.50 | ~~JB~~ |
| 2. | | UNKNOWN | 18.77 | 0.647 | ~~J~~ |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.30 | ~~NJB~~ |
| 4. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | 1.68 | ~~NJB~~ |
| 5. | | | | | |
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-FB-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-07A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9619

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.273 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-FB-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-07A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9619

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.410 | J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.40 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.456 | JB |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.115 | J |
| | | | |

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-FB-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-07A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9619

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-FB-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-07A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9619

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.43 | JB |
| 2. | | UNKNOWN | 18.78 | 0.640 | JB |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.30 | NJB |
| 4. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | 1.82 | NJB |
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-S-29-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9632

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | ~~0.286~~ | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U J |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 6.22 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 3.81 | |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.190 | J |
| 75-34-3 | 1,1-Dichloroethane | 8.66 | |
| 156-59-2 | cis-1,2-Dichloroethene | ~~56.4~~ | E |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | ~~78.6~~ | E |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.132 | J |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | ~~39.8~~ | E |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-29-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9632

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.148 | J |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.71 | ~~B~~ U |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.180 | J |
| 67-66-3 | Chloroform | ~~0.331~~ | ~~JB~~ |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-S-29-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9632

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-S-29-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-05A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9632

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | ~~1.56~~ | JB |
| 2. | | UNKNOWN | 18.78 | ~~0.657~~ | JB |
| 3. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 22.28 | ~~2.32~~ | NJ |
| 4. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | 1.72 | NJB |
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VE-TB-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9618

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.296 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.138 | J |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-TB-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9618

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U J |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.06 | B J |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.294 | JB |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-TB-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9618

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VE-TB-052003

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-01A

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9618

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.53 | JB |
| 2. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 18.79 | 0.670 | NJB |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.45 | NJB |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.87 | NJ |
| 5. | | | | | |
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLKLW1

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-49-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9617

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

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.283 | J |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW1

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-49-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9617

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

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.24 | |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.371 | J |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW1

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-49-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9617

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

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKLW1

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-49-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9617

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

% Moisture: not dec. _____ Date Analyzed: 05/29/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.91 | 1.57 | J |
| 2. | | UNKNOWN | 18.79 | 0.587 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.50 | NJ |
| 4. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | 1.98 | NJ |
| 5. | | | | | |
| 6. | | | | | |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLKLW2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-50-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9629

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.280 | J |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.114 | J |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-50-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9629

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.27 | |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.134 | J |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-50-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9629

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
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1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKLW2

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-50-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9629

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.90 | 1.63 | J |
| 2. | | UNKNOWN | 18.78 | 0.613 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.27 | 2.16 | NJ |
| 4. | 36340-20-2 | PERDEUTERIO-PENTADECANE | 24.85 | 1.67 | NJ |
| 5. | | | | | |
| 6. | | | | | |
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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLKLW3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-51-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9651

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.276 | J |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 0.500 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.500 | U |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.500 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.500 | U |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.500 | U |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 0.500 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 0.500 | U |
| | | | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-51-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9651

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 0.500 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.500 | U |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 0.500 | U |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.38 | |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKLW3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-51-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9651

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1F

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKLW3

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: MB-1707-51-1

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9651

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

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 ID: 0.53 (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. | | UNKNOWN | 13.92 | 1.56 | J |
| 2. | | UNKNOWN | 18.79 | 0.585 | J |
| 3. | 0-00-0 | N-DECANE-D22 | 22.28 | 2.30 | NJ |
| 4. | 0-00-0 | N-DECANE-D22 | 24.85 | 1.77 | NJ |
| 5. | | | | | |
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-29A
-052003MS

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-06AMS

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9636

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.283 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.841 | |
| 75-35-4 | 1,1-Dichloroethene | 7.68 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.887 | |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 9.36 | |
| 156-59-2 | cis-1,2-Dichloroethene | 22.6 | |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 9.78 | |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 4.97 | |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 9.48 | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-29A
-052003MS

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-06AMS

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9636

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 4.90 | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.174 | J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 4.83 | |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.62 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-29A
-052003MS

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-06AMS

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9636

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-29A-052003MSD

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-06AMSD

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9637

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 | 0.500 | U |
| 74-87-3 | Chloromethane | 0.280 | JB |
| 75-01-4 | Vinyl Chloride | 0.500 | U |
| 74-83-9 | Bromomethane | 0.500 | U |
| 75-00-3 | Chloroethane | 0.500 | U |
| 75-69-4 | Trichlorofluoromethane | 0.500 | U |
| 75-35-4 | 1,1-Dichloroethene | 7.67 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.899 | |
| 67-64-1 | Acetone | 5.00 | U |
| 75-15-0 | Carbon Disulfide | 0.500 | U |
| 79-20-9 | Methyl Acetate | 0.500 | U |
| 75-09-2 | Methylene Chloride | 0.500 | U |
| 1634-04-4 | Methyl tert-Butyl Ether | 0.500 | U |
| 75-34-3 | 1,1-Dichloroethane | 9.33 | |
| 156-59-2 | cis-1,2-Dichloroethene | 22.4 | |
| 78-93-3 | 2-Butanone | 5.00 | U |
| 74-97-5 | Bromochloromethane | 0.500 | U |
| 71-55-6 | 1,1,1-Trichloroethane | 9.66 | |
| 110-82-7 | Cyclohexane | 0.500 | U |
| 56-23-5 | Carbon tetrachloride | 0.500 | U |
| 71-43-2 | Benzene | 5.08 | |
| 107-06-2 | 1,2-Dichloroethane | 0.500 | U |
| 79-01-6 | Trichloroethene | 9.57 | |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-29A-052003MSD

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-06AMSD

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9637

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 108-87-2 | Methylcyclohexane | 0.500 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.00 | U |
| 108-88-3 | Toluene | 5.04 | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.500 | U |
| 127-18-4 | Tetrachloroethene | 0.500 | U |
| 591-78-6 | 2-Hexanone | 5.00 | U |
| 124-48-1 | Dibromochloromethane | 0.232 | J |
| 106-93-4 | 1,2-Dibromoethane | 0.500 | U |
| 108-90-7 | Chlorobenzene | 4.97 | |
| 100-41-4 | Ethylbenzene | 0.500 | U |
| 1330-20-7 | Xylene (total) | 0.500 | U |
| 100-42-5 | Styrene | 0.500 | U |
| 75-25-2 | Bromoform | 4.71 | B |
| 98-82-8 | Isopropylbenzene | 0.500 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.500 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.500 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.500 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.500 | U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.500 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.500 | U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.500 | U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.500 | U |
| 67-66-3 | Chloroform | 0.500 | U |
| 78-87-5 | 1,2-Dichloropropane | 0.500 | U |
| 75-27-4 | Bromodichloromethane | 0.500 | U |
| | | | |

VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VE-1-29A-052003MSD

Lab Name: ECOLOGY AND ENVIRONMENT, Contract: 044273

Lab Code: EANDE Case No.: SAS No.: SDG No.: 0305226

Matrix: (soil/water) WATER Lab Sample ID: 05226-06AMSD

Sample wt/vol: 25.00 (g/mL) ML Lab File ID: H9637

Level: (low/med) LOW Date Received: 05/21/03

% Moisture: not dec. _____ Date Analyzed: 05/30/03

GC Column: DB-624 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 |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 0.500 | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.500 | U |
| | | | |

# CLP DATA ASSESSMENT

Functional Guidelines for Evaluating Organic Analysis

PROJECT NO.: 0305226

LABORATORY: Ecology and Environment SITE: Vestal Well 1-1

DATA ASSESSMENT

The current SOP No. HW-13 (Revision 3), July 2001 for CLP Organics Review and Preliminary Review has been applied.

All data were found to be valid and acceptable except those analytes which have been rejected, "R" (unusable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's Signature: Cecelia J. Mench Date: 7/3/03

Verified By: _____ Date: _____

## CLP DATA ASSESSMENT

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

All samples were analyzed within specified holding times, therefore, no action was required.

2. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

All samples exhibited low recovery for bromoform-d surrogate. The laboratory stated that the low recovery was due to a back-exchange which resulted in a breakdown of the surrogate. Due to this anomaly, non-detects for the associated target compounds (dibromochloromethane, 1,2-dibromoethane, and bromoform) were qualified as estimated (UJ), instead of unusable (R). Positive results for the associated compounds were estimated (J) in all samples. No other surrogates failed criteria.

## CLP DATA ASSESSMENT

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

The MS/MSD performed on sample VE-1-29A-05 were satisfactory.

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than the blank contaminant level (2 or 10 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A) Method blank contamination:

Bromoform: all samples except VE-FB-052003 and VE-TB-052003.
All TICs at retention times 13.9, 18.8, 22.3, and 24.8 were qualified "R" in all samples except the field and trip blanks due to laboratory contamination.

storage blank
methylene chloride: VE-1-22-052003, VE-1-29-052003DL

B) Field or rinse blank contamination:

bromodichloromethane: VE-1-24-052003
dibromochloromethane: VE-1-24-052003, VE-1-29A-052003
chloroform: VE-1-29-052003, VE-S-29-052003

C) Trip blank contamination:

Chloromethane: VE-1-24-052003, VE-1-29-052003, VE-1-29-052003DL,
VE-1-29A-052003, VE-S-29-052003, VE-S-29-052003DL

## CLP DATA ASSESSMENT

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene and for semi-volatiles Decafluorotriphenyl-phosphine (DFTPP).

If the mass calibration is in error, all associated data will be classified as unusable "R".

All criteria were met.

## CLP DATA ASSESSMENT

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be <0.05 (< 0.01 for poor performers) in both initial and continuing calibrations. A value < 0.05, < 0.01 for poor performers, indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

All response factors were acceptable.

## CLP DATA ASSESSMENT

7. CALIBRATION:

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD and %D must be $\leq$ 30%, $\leq$ 50% for the poor performers. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria, non-detects data may be qualified "R".

For the PEST/PCB fraction, if %RSD exceeds 20% for all analytes except for the two surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the sample shown were qualified for %RSD and %D:

Bromomethane was estimated (UJ) in samples VE-1-29-052003DL, VE-1-29A-052003, VE-S-29-052003, VE-S-29-052003DL for exceeding %D criteria in the associated calibration verification.

## CLP DATA ASSESSMENT

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must fall within the limits of ± 40% of the associated continuing calibration standard. The retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (± 40%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgement to determine either partial or total rejection of the data for that sample fraction.

All internal standards were within limits.

## CLP DATA ASSESSMENT

9. COMPOUND IDENTIFICATION:

A) Volatile and Semi-Volatile Fractions:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

N/A

B) Pesticide Fraction:

The retention times of reported compounds must fall within the calculated retention time (RT) windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10ng/ml in the final sample extract.

N/A

## CLP DATA ASSESSMENT

10. CONTRACT PROBLEMS NON-COMPLIANCE:

11. FIELD DOCUMENTATION:
The field duplicate pair (VE-1-29-052003/VE-S-29-052003) was analyzed with satisfactory results.

12. OTHER PROBLEMS:
The laboratory stated that the bromoform contamination reported in all blanks and samples was the result of a "back-exchange" that occurred when the deuterated standard was diluted.

13. This package contains re-extractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified as not to be used.

VE-1-29-052003DL (H9630)
VE-S-29-052003DL (H9634)

DPO: [ ]ACTION [ ]FYI REGION II

# ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

Work Order No.: 0305226

LABORATORY: E and E DATA USER: EPA Region II

SOW: OLM03.2 REVIEW COMPLETION DATE: 7/3/03

NO. OF SAMPLES: 7 WATER ____ SOIL ____ OTHER

REVIEWER: [ ] ESD [ ] ESAT [ ] OTHER, CONTRACTOR TTFWI

| QC ITEM | VOA | BNA | PCB | | |
|---|---|---|---|---|---|
| HOLDING TIMES | O | | | | |
| GC-MS PERFORMANCE | O | | | | |
| INITIAL CALIBRATIONS | O | | | | |
| CONTINUING CALIBRATIONS | O | | | | |
| FIELD BLANKS(F = N/A) | O | | | | |
| LABORATORY BLANKS | O | | | | |
| SURROGATES | O | | | | |
| MATRIX SPIKE/DUPLICATES | O | | | | |
| QC SAMPLES(LCS, PVS) | N/A | | | | |
| INTERNAL STANDARDS | O | | | | |
| COMPOUND IDENTIFICATION | O | | | | |
| COMPOUND QUANTITATION | O | | | | |
| SYSTEM PERFORMANCE | O | | | | |
| OVERALL ASSESSMENT | M | | | | |

O = No problems or minor problems that do not affect data usability.
X = No more than about 5% of the data points are qualified as either estimated or unusable.
M = More than about 5% of the data points are qualified as either estimated or unusable.
Z = More than about 5% of the data points are qualified as unusable.

DPO ACTION ITEMS:

AREAS OF CONCERN:

DATA REJECTION SUMMARY

Type of Review: Level 4 Date: 7/3/03 Work Order No.: 0305226

Site Name: Vestal Well Lab Name: Ecology & Environment, Inc.

Reviewer's Initials: CM Number of Samples: 7W

## Analytes Rejected Due to Exceeding Review Criteria For:

No. of Compounds/No. of Fractions (Samples)

| | Surrogates | Holding Time | Calibration | Contamination | ID | Internal Standards | Other | Total # of Samples | Total # Rejected/Total # in All Samples |
|---|---|---|---|---|---|---|---|---|---|
| VOA(50) | 0 | 0 | 0 | 0 | 0 | 0 | | 9W | 0 / 450 = 0 % |
| ACID(14) | | | | | | | | | / = % |
| B/N(51) | | | | | | | | | / = % |
| PEST(21) | | | | | | | | | / = % |
| PCB(7) | | | | | | | | | / = % |

NOTE: ASTERISK (*) INDICATES ADDITIONAL EXCEEDANCES OF REVIEW CRITERIA.

## Analytes Estimated Due to Exceeding Review Criteria For:

No. of Compounds/No. of Fractions (Samples)

| | Surrogates | Holding Time | Calibration | Contamination | ID | Internal Standards | Other | Total # of Samples | Total # Estimated/Total # in All Samples |
|---|---|---|---|---|---|---|---|---|---|
| VOA(50) | 27 | 0 | 4 | 13 | 0 | 0 | | 9 | 44 / 450 = 10 % |
| ACID(14) | | | | | | | | | / = % |
| B/N(51) | | | | | | | | | / = % |
| PEST(21) | | | | | | | | | / = % |
| PCB(7) | | | | | | | | | / = % |

NOTE: ASTERISK (*) INDICATES ADDITIONAL EXCEEDANCES OF REVIEW CRITERIA.

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

VE-1-22-052003

ab Name: ECOLOGY_AND_ENVIRONMENT Contract: 044273__

Lab Code: EANDE Case No.: 0305226 SAS No.: _____ SDG No.: 0305226

atrix (soil/water): WATER_ Lab Sample ID: 0305226-03B

Level (low/med): LOW___ Date Received: 05/21/03

Solids: _____

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 108 | B | | P |
| 7440-36-0 | Antimony | 9.4 | U | | P |
| 7440-38-2 | Arsenic | 8.1 | B | | P |
| 7440-39-3 | Barium | 11.0 | B | | P |
| 7440-41-7 | Beryllium | 0.067 | U | | P |
| 7440-43-9 | Cadmium | 0.40 | U | | P |
| 7440-70-2 | Calcium | 59700 | | | P |
| 7440-47-3 | Chromium | 5.2 | B | | P |
| 7440-48-4 | Cobalt | 1.5 | B | | P |
| 7440-50-8 | Copper | 3.3 | B | | P |
| 7439-89-6 | Iron | 9630 | | E J | P |
| 7439-92-1 | Lead | 2.5 | U | | P |
| 7439-95-4 | Magnesium | 80.2 | B | | P |
| 7439-96-5 | Manganese | 65.6 | | | P |
| 7439-97-6 | Mercury | 0.11 | B | | CV |
| 7440-02-0 | Nickel | 7.4 | B | | P |
| 7440-09-7 | Potassium | 4220 | B | | P |
| 7782-49-2 | Selenium | 4.7 | U | N | P |
| 7440-22-4 | Silver | 2.0 | U | | P |
| 7440-23-5 | Sodium | 24700 | | | P |
| 7440-28-0 | Thallium | 8.8 | U | | P |
| 7440-62-2 | Vanadium | 1.9 | U | | P |
| 7440-66-6 | Zinc | 16.0 | B | | P |
| 57-12-5 | Cyanide | | | | NR |
| | | | | | |

olor Before: Y_____ Clarity Before: C_____ Texture: H_____

olor After: CL_____ Clarity After: C_____ Artifacts:_____

Comments:

VE-1-22-052003

# INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

VE-1-24-052003

Lab Name: ECOLOGY_AND_ENVIRONMENT Contract: 044273__

Lab Code: EANDE_ Case No.: 0305226 SAS No.: _____ SDG No.: 0305226

Matrix (soil/water): WATER_ Lab Sample ID: 0305226-02B

Level (low/med): LOW___ Date Received: 05/21/03

% Solids: _____

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 46.6 | B | | P |
| 7440-36-0 | Antimony | 9.4 | U | | P |
| 7440-38-2 | Arsenic | 7.6 | U | | P |
| 7440-39-3 | Barium | 7.7 | B | | P |
| 7440-41-7 | Beryllium | 0.26 | B | | P |
| 7440-43-9 | Cadmium | 0.40 | U | | P |
| 7440-70-2 | Calcium | 53300 | | | P |
| 7440-47-3 | Chromium | 1.1 | B | | P |
| 7440-48-4 | Cobalt | 0.96 | B | | P |
| 7440-50-8 | Copper | 2.6 | B | | P |
| 7439-89-6 | Iron | 883 | | E | P |
| 7439-92-1 | Lead | 2.5 | U | | P |
| 7439-95-4 | Magnesium | 8420 | | | P |
| 7439-96-5 | Manganese | 16.9 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | 1.4 | U | | P |
| 7440-09-7 | Potassium | 1130 | B | | P |
| 7782-49-2 | Selenium | 4.7 | U | N | P |
| 7440-22-4 | Silver | 2.0 | U | | P |
| 7440-23-5 | Sodium | 23100 | | | P |
| 7440-28-0 | Thallium | 8.8 | U | | P |
| 7440-62-2 | Vanadium | 1.9 | U | | P |
| 7440-66-6 | Zinc | 25.5 | | | P |
| 57-12-5 | Cyanide | | | | NR |
| | | | | | |

Color Before: CL_____ Clarity Before: C_____ Texture: H_____

Color After: CL_____ Clarity After: C_____ Artifacts:_____

Comments:

VE-1-24-052003

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

VE-1-29-052003

ab Name: ECOLOGY_AND_ENVIRONMENT Contract: 044273__

Lab Code: EANDE_ Case No.: 0305226 SAS No.: _____ SDG No.: 0305226

_atrix (soil/water): WATER_ Lab Sample ID: 0305226-04B

Level (low/med): LOW___ Date Received: 05/21/03

Solids: _____

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 127 | B | | P |
| 7440-36-0 | Antimony | 9.4 | U | | P |
| 7440-38-2 | Arsenic | 8.3 | B | | P |
| 7440-39-3 | Barium | 51.3 | B | | P |
| 7440-41-7 | Beryllium | 0.067 | U | | P |
| 7440-43-9 | Cadmium | 0.40 | U | | P |
| 7440-70-2 | Calcium | 115000 | | | P |
| 7440-47-3 | Chromium | 4.7 | B | | P |
| 7440-48-4 | Cobalt | 4.3 | B | | P |
| 7440-50-8 | Copper | 2.4 | B | | P |
| 7439-89-6 | Iron | 5740 | | E J | P |
| 7439-92-1 | Lead | 5.0 | | J | P |
| 7439-95-4 | Magnesium | 19100 | | | P |
| 7439-96-5 | Manganese | 44.1 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | 4.7 | B | | P |
| 7440-09-7 | Potassium | 1600 | B | | P |
| 7782-49-2 | Selenium | 11.6 | | N | P |
| 7440-22-4 | Silver | 2.0 | U | | P |
| 7440-23-5 | Sodium | 67000 | | | P |
| 7440-28-0 | Thallium | 8.8 | U | | P |
| 7440-62-2 | Vanadium | 1.9 | U | | P |
| 7440-66-6 | Zinc | 9.0 | B | | P |
| 57-12-5 | Cyanide | | | | NR |
| | | | | | |

olor Before: CL_____ Clarity Before: C_____ Texture: H____

olor After: CL_____ Clarity After: C_____ Artifacts:_____

Comments:

VE-1-29-052003

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

VE-1-29A-052003

Lab Name: ECOLOGY_AND_ENVIRONMENT Contract: 044273__

Lab Code: EANDE_ Case No.: 0305226 SAS No.: _____ SDG No.: 0305226

Matrix (soil/water): WATER_ Lab Sample ID: 0305226-06B

Level (low/med): LOW___ Date Received: 05/21/03

% Solids: _____

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 35.5 | U | | P |
| 7440-36-0 | Antimony | 9.4 | U | | P |
| 7440-38-2 | Arsenic | 7.7 | B | | P |
| 7440-39-3 | Barium | 41.9 | B | | P |
| 7440-41-7 | Beryllium | 0.067 | U | | P |
| 7440-43-9 | Cadmium | 0.40 | U | | P |
| 7440-70-2 | Calcium | 108000 | | | P |
| 7440-47-3 | Chromium | 0.72 | B | | P |
| 7440-48-4 | Cobalt | 0.88 | U | | P |
| 7440-50-8 | Copper | 2.0 | B | | P |
| 7439-89-6 | Iron | 1840 | | E | P |
| 7439-92-1 | Lead | 2.5 | U | | P |
| 7439-95-4 | Magnesium | 19400 | | | P |
| 7439-96-5 | Manganese | 348 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | 1.9 | B | | P |
| 7440-09-7 | Potassium | 1600 | B | | P |
| 7782-49-2 | Selenium | 5.1 | | N | P |
| 7440-22-4 | Silver | 2.0 | U | | P |
| 7440-23-5 | Sodium | 68000 | | | P |
| 7440-28-0 | Thallium | 8.8 | U | | P |
| 7440-62-2 | Vanadium | 1.9 | U | | P |
| 7440-66-6 | Zinc | 4.8 | B | | P |
| 57-12-5 | Cyanide | | | | NR |
| | | | | | |

Color Before: CL_____ Clarity Before: C_____ Texture: H_____

Color After: CL_____ Clarity After: C_____ Artifacts:_____

Comments:

VE-1-29A-052003

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

VE-FB-052003

ab Name: ECOLOGY_AND_ENVIRONMENT Contract: 044273__

Lab Code: EANDE_ Case No.: 0305226 SAS No.: _____ SDG No.: 0305226

_atrix (soil/water): WATER_ Lab Sample ID: 0305226-07B

Level (low/med): LOW___ Date Received: 05/21/03

Solids: _____

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 47.9 | B | | P |
| 7440-36-0 | Antimony | 9.4 | U | | P |
| 7440-38-2 | Arsenic | 7.6 | U | | P |
| 7440-39-3 | Barium | 1.1 | B | | P |
| 7440-41-7 | Beryllium | 0.067 | U | | P |
| 7440-43-9 | Cadmium | 0.40 | U | | P |
| 7440-70-2 | Calcium | 435 | B | | P |
| 7440-47-3 | Chromium | 11.5 | | | P |
| 7440-48-4 | Cobalt | 4.5 | B | | P |
| 7440-50-8 | Copper | 3.4 | B | | P |
| 7439-89-6 | Iron | 293 | | E J | P |
| 7439-92-1 | Lead | 2.5 | U | | P |
| 7439-95-4 | Magnesium | 84.1 | B | | P |
| 7439-96-5 | Manganese | 4.2 | B | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | 7.2 | B | | P |
| 7440-09-7 | Potassium | 252 | B | | P |
| 7782-49-2 | Selenium | 4.7 | U | N | P |
| 7440-22-4 | Silver | 2.0 | U | | P |
| 7440-23-5 | Sodium | 1340 | B | | P |
| 7440-28-0 | Thallium | 8.8 | U | | P |
| 7440-62-2 | Vanadium | 1.9 | U | | P |
| 7440-66-6 | Zinc | 14.8 | B | | P |
| 57-12-5 | Cyanide | | | | NR |
| | | | | | |

olor Before: CL_____ Clarity Before: C_____ Texture: H_____

olor After: CL_____ Clarity After: C_____ Artifacts:_____

Comments:

VE-FB-052003

# INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

VE-S-29-052003

Lab Name: ECOLOGY_AND_ENVIRONMENT Contract: 044273__

Lab Code: EANDE_ Case No.: 0305226 SAS No.: _____ SDG No.: 0305226

Matrix (soil/water): WATER_ Lab Sample ID: 0305226-05B

Level (low/med): LOW___ Date Received: 05/21/03

% Solids: _____

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 139 | B | | P |
| 7440-36-0 | Antimony | 9.4 | U | | P |
| 7440-38-2 | Arsenic | 8.1 | B | | P |
| 7440-39-3 | Barium | 50.2 | B | | P |
| 7440-41-7 | Beryllium | 0.067 | U | | P |
| 7440-43-9 | Cadmium | 0.40 | U | | P |
| 7440-70-2 | Calcium | 115000 | | | P |
| 7440-47-3 | Chromium | 4.4 | B | | P |
| 7440-48-4 | Cobalt | 4.6 | B | | P |
| 7440-50-8 | Copper | 3.5 | B | | P |
| 7439-89-6 | Iron | 6870 | | E | P |
| 7439-92-1 | Lead | 11.9 | | | P |
| 7439-95-4 | Magnesium | 19000 | | | P |
| 7439-96-5 | Manganese | 48.0 | | | P |
| 7439-97-6 | Mercury | 0.10 | U | | CV |
| 7440-02-0 | Nickel | 4.5 | B | | P |
| 7440-09-7 | Potassium | 1650 | B | | P |
| 7782-49-2 | Selenium | 5.3 | | N | P |
| 7440-22-4 | Silver | 2.0 | U | | P |
| 7440-23-5 | Sodium | 66300 | | | P |
| 7440-28-0 | Thallium | 8.8 | U | | P |
| 7440-62-2 | Vanadium | 1.9 | U | | P |
| 7440-66-6 | Zinc | 11.1 | B | | P |
| 57-12-5 | Cyanide | | | | NR |
| | | | | | |

Color Before: CL_____ Clarity Before: C_____ Texture: H_____

Color After: CL_____ Clarity After: C_____ Artifacts:_____

Comments:

VE-S-29-052003

Title: Evaluation of Metals Data for the Contract Laboratory Program
Appendix A.2: Data Assessment Narrative

Date: Jan. 1992
Number: HW-2
Revision: 11

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**Project #** 0305226 **Matrix:** **Soil** _____

**Site** Vestal Well 1-1 **Lab** E and E **Water** 6

**Contractor** TTFWI **Reviewer** C. Minch **Other** _____

A.2.1 **Validation Flags-** The following flags have been applied in red by the data validator and must be considered by the data user.

J- This flag indicates the result qualified as **estimated**

Red- Line- A red-line drawn through a sample result indicates **unusable** value. The red-lined data are known to contain significant errors based on documented information and must not be used by the data user.

**Fully Usable Data-** The results that do not carry "J" or "red-line" are fully **usable**.

**Contractual Qualifiers-** The legend of contractual qualifiers applied by the lab on Form I's is found on page B-20 of SOW ILM01.0.

A.2.2 The data assessment is given below and on the attached sheets.

Selenium was rejected (R) in samples VE-1-29-052003, VE-S-29-052003, and VE-1-29A-052003 due to high spike recovery.

Selenium also exceeded CRI recovery criteria, but all positive results were previously qualified.

Iron was rejected in sample VE-1-24-052003 because the positive value was less than 5 times the value reported in the field blank. Chromium was also rejected in all samples due to field blank contamination.

The serial dilution exceeded criteria for Fe and was estimated (J) in all samples except VE-1-24-052003, which was previously qualified.

Lead was estimated (J) in samples VE-1-29-052003 and VE-S-29-052003 for failing field duplicate criteria. Selenium also failed criteria, but was previously qualified in both samples.

A.2.3 Contract-Problem/Non-Compliance

The spike analysis exceeded criteria for Se.
Selenium exceeded CRI criteria.
Iron exceeded serial dilution criteria.

MMB/ESAT Reviewer: _____ Date: _____
Signature

Contractor Reviewer: Cecelia M. Minnick Date: 7/15/03
Signature

Verified by: _____ Date: _____

Title: Evaluation of Metals Data for the Contract Laboratory Program
Appendix A.3: Contract Non-Compliance (SMO Report)

Date: Jan. 1992
Number: HW-2
Revision: 11

CONTRACT NON-COMPLIANCE
(SMO REPORT)

Regional Review of Uncontrolled Hazardous Waste
Site Contract Laboratory Data Package

PROJECT NO. 0305226

The hardcopied (laboratory name) Ecology and Environment, Inc.
Inorganic data package received at Region II has been reviewed and the quality assurance and performance data summarized. The data reviewed included:
Sample No: VE-1-22-052003, VE-1-24-052003, VE-1-29-052003, VE-1-29A-052003, VE-FB-052003, V-S-29-052003

Conc. & Matrix: 6 water

Contract No.(____) requires that specific analytical work be done and that associated reports be provided by the contractor to the Regions, EMSL-LV, and SMO. The general criteria used to determine the performance were based on an examination of:

- Data Completeness
- Matrix Spike Results
- Calibration Standards Results
- Duplicate Analysis Results
- Blank Analysis Results
- MSA Results

Items of non-compliance with the above contract are described below.

Comments:

The spike analysis exceeded criteria for Se.
Selenium exceeded CRI criteria.
Iron exceeded serial dilution criteria.

CM
Reviewer's Initials

7/15/03
Date

Title: Evaluation of Metals Data for the Contract Laboratory Program
Appendix A.5: CLP Data Assessment Summary Form (Inorganics)

Date: Jan. 1992
Number: HW-2
Revision: 11

CLP DATA ASSESSMENT SUMMARY FORM (INORGANICS)

Type of Review: Level 4 Date: 7/15/03 Project No.: 0305226

Site: Vestal Well 1-1 Lab Name: E and E

Reviewer's Initials: CR Number of Samples: 6W

Analytes Rejected Due to Exceeding Review Criteria

| | Holding Time | Calibration | Prep Blank | Field Blank | Interference | Matrix Spike | Duplicates | | Detection Limits | LCS | Serial Dilution | MSA | Total Analytes | Rejected |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Lab | Field | | | | | | |
| ICP | | | | 6 | | 3 | | | | | | | 132 | 9 |
| Flame AA | | | | | | | | | | | | | | |
| Furnace AA | | | | | | | | | | | | | | |
| Mercury | | | | | | | | | | | | | 6 | 0 |
| Total | | | | 6 | | 3 | | | | | | | 138 | 9 |
| Other | | | | | | | | | | | | | | |

Analytes Flagged as Estimated (J) Due to Exceeding Criteria For:

| | Holding Time | CRDL/CRI Calibration | Prep Blank | Field Blank | Interference | Matrix Spike | Duplicates | | Matrix Spike | LCS | Serial Dilution | MSA | Total Analytes | Estimated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Lab | Field | | | | | | |
| ICP | | * | | | | | | 2* | | | 5* | | 132 | 7 |
| Flame AA | | | | | | | | | | | | | | |
| Furnace AA | | | | | | | | | | | | | | |
| Mercury | | | | | | | | | | | | | | |
| Total | | | | | | | | 2* | | | 5* | | 138 | 7 |
| Other | | | | | | | | | | | | | | |

Note:
Asterisk (*) indicates additional exceedances of review criteria.

Title: Evaluation of Metals Data for the
Contract Laboratory Program
Appendix A.6: CLP Data Assessment Checklist

Inorganic Analysis

Date: Jan. 1992
Number: HW-2
Revision: 11

INORGANIC REGIONAL DATA ASSESSMENT Region II

PROJECT NO 0305226 SITE Vestal Well 1-1

LABORATORY E and E NO. OF SAMPLES/MATRIX 6W

SDG# REVIEWER (IF NOT ESD) TTFWI

SOW# ILMO4.0 REVIEWER'S NAME C. Minch

DPO: ACTION FYI COMPLETION DATE 7/15/03

DATA ASSESSMENT SUMMARY

| | | ICP | AA | Hg | CN |
|---|---|---|---|---|---|
| 1. | HOLDING TIMES | O | | O | |
| 2. | CALIBRATIONS | O | | O | |
| 3. | BLANKS | M | | O | |
| 4. | ICS | O | | O | |
| 5. | LCS | O | | O | |
| 6. | DUPLICATE ANALYSIS | O | | O | |
| 7. | MATRIX SPIKE | O | | O | |
| 8. | MSA | - | | - | |
| 9. | SERIAL DILUTION | O | | O | |
| 10. | SAMPLE VERIFICATION | O | | O | |
| 11. | OTHER QC | - | | - | |
| 12. | OVERALL ASSESSMENT | M | | O | |

O = Data has no problems/or qualified due to minor problems.
M = Data qualified due to major problems.
Z = Data unacceptable.
X = Problems, but do not affect data.

ACTION ITEMS:
Selenium exceeded CRI criteria. Selenium rejected due to high spike recovery. Iron estimated for exceeding serial dilution criteria.

AREAS OF CONCERN:
Iron and Cr contamination observed in the field blank.

NOTABLE PERFORMANCE: