# SITE INSPECTION REPORT FOR PAXTON SALES CORPORATION YAKIMA, WASHINGTON

TDD F10-8901-015
PAN FWA0572SA



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Submitted to: J.E. Osborn, Regional Project Officer
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U.S. Environmental Protection Agency
Region 10
Seattle, Washington

SITE INSPECTION REPORT
PAXTON SALES CORPORATION
YAKIMA, WASHINGTON
TDD F10-8901-015
PAN FWA0572SA

## Site Name/Address

Paxton Sales Corporation
108 West Mead Avenue
Yakima, Washington 98902

## Site Inspection Participants

Mary Bandrowski, Field Investigator, E & E, Seattle, 206/624-9537

Susan Niemuth, Field Investigator, E & E, Seattle, 206/624-9537

## Principal Site Contacts

Kenneth Paxton, Owner, Paxton Sales Corporation, Yakima, Washington, 509/453-0397

## Date(s) of Investigation

Site Reconnaissance: January 31, 1989
Sampling: March 27, 1989 and June 9, 1989

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## ABSTRACT

Pursuant to United States Environmental Protection Agency (EPA) Contract Number 68-01-7347 and Technical Directive Document (TDD) Number F10-8901-015, a file review and Screening Site Inspection of the Paxton Sales Corporation site, located in Yakima, Washington, was conducted between January and June 1989. As a part of this inspection, one sediment and three domestic well samples were collected during two sampling episodes to evaluate the site's potential for inclusion on the National Priorities List (NPL). The samples were analyzed for EPA Target Compounds through the EPA's Contract Laboratory Program (CLP).

Paxton Sales Corporation is an active machine shop which has been in operation for 20 years. Prior to a 1984 investigation conducted by the Washington State Department of Ecology, wastewaters generated at the facility were disposed of in an on-site dry well.

Sediment collected from the on-site dry well contained both organic and inorganic constituents on the Target Compound List. The potential for contact with these constituents exists for workers at the facility due to the dry well's location in an unrestricted area on the property.

## 1.0 INTRODUCTION

Pursuant to U.S. Environmental Protection Agency (EPA) Contract No. 68-01-7347 and Technical Directive Document (TDD) No. F10-8901-015, Ecology and Environment, Inc. (E & E) conducted a Screening Site Inspection (SSI) of the Paxton Sales Corporation site located in Yakima, Washington. The EPA Site Inspection process is intended to evaluate actual or potential environmental or public health hazards at a particular site relative to other sites across the nation for the purpose of identifying remedial action priorities. The Screening Site Inspection represents the initial phase of the SI process and is intended to collect sufficient data to enable evaluation of the site's potential for inclusion on the National Priorities List (NPL) and, for those sites determined to be NPL candidates, establish priorities for additional action. The SI process does not include extensive or complete site characterization, contaminant fate determination, or quantitative risk assessment.

This document presents a summary of the objectives, activities, and results of the Paxton Sales Corporation SSI. Included are descriptions of site background information (Section 2.0), sampling objectives and scope (Sections 3.0 and 4.0), analytical results of sampling (Section 5.0), and inspection conclusions (Section 6.0).

## 2.0 BACKGROUND

### 2.1 Site Location and Description

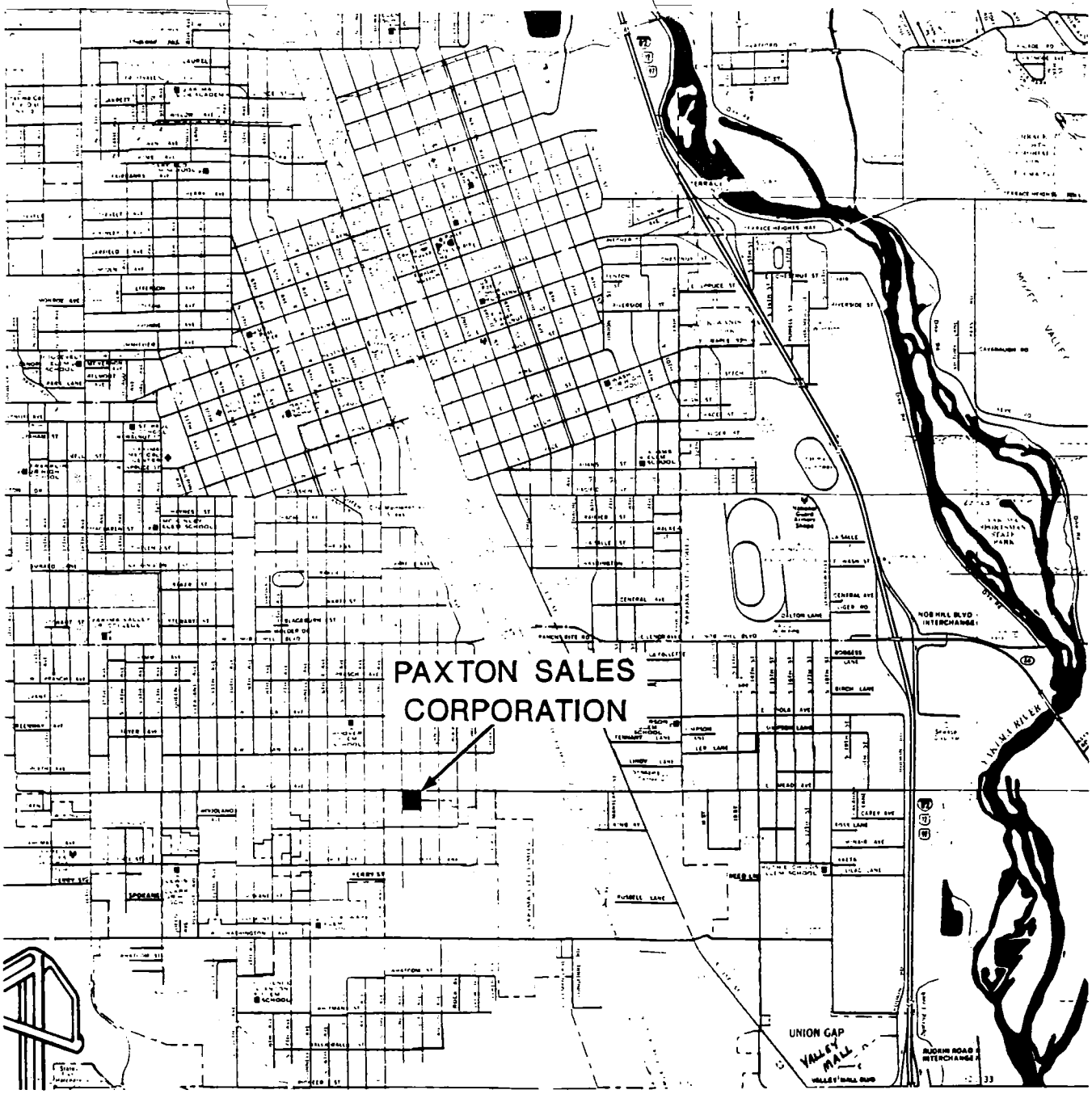
The Paxton Sales Corporation (Paxton) site is an active machine shop located at 108 West Mead Avenue, Yakima, Washington, in the NW 1/4 of Section 31, Township 13N, Range 18E (Figure 1). Geographically, the site is located at 46°34'41.0" north latitude and 120°30'23.0" west longitude (E & E 1988).

Paxton Sales Corporation, which has been in operation since 1969, is currently owned and operated by Mr. Dwight Kenneth Paxton. The site lies within a mixed commercial, industrial and residential area. A residential neighborhood is located immediately south of the facility and two schools are located within 0.5 miles of the site. The population within 1 mile of the site is approximately 8,000 and within 4 miles is greater than 40,000 (USDC 1983). Wide Hollow Creek and the Yakima River are located within 2 miles of the facility (USGS 1985).

The Yakima area experiences a semi-arid climate, with a net precipitation deficit of approximately 22 inches yearly (USDC 1979).

### 2.2 Site Operations and Waste Characteristics

The Paxton facility (Figure 2) operations include tooling and case-hardening of steel parts. The shop uses lathes with cutting (cooling) fluids to machine custom steel parts.

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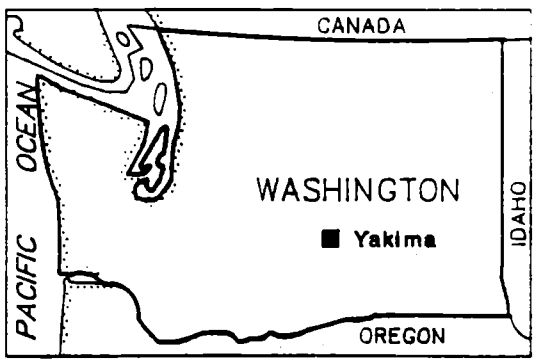




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FIGURE 1
LOCATION MAP
PAXTON SALES CORPORATION
Yakima, WA

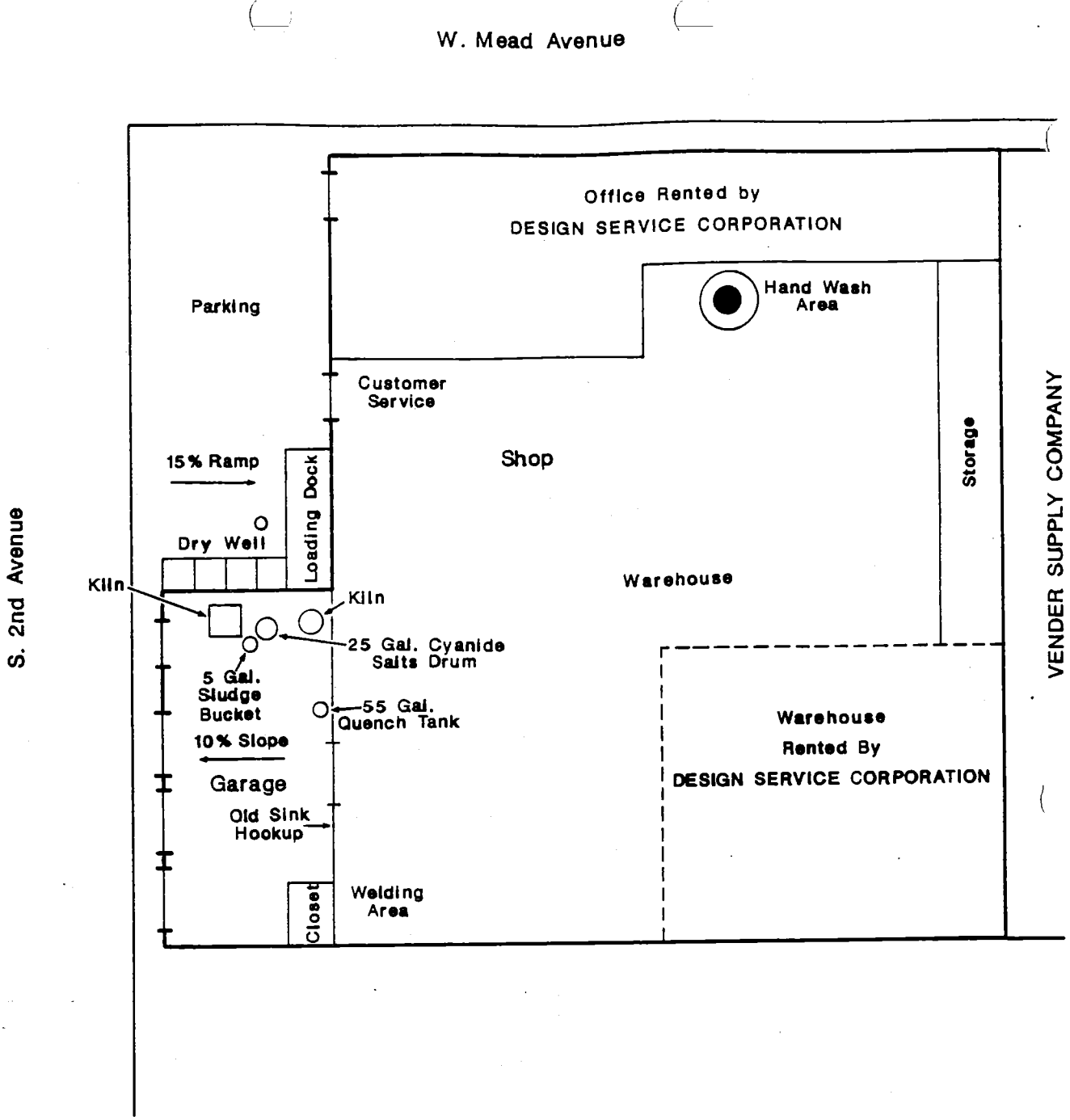


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FIGURE 2
SITE MAP
PAXTON SALES CORPORATION
Yakima, WA

The site consists of a cement block building which is bordered by a paved parking lot and a loading dock on the west, and shares the east wall with a vendor supply company. The building includes the Paxton offices, a shop area, a welding area, and a garage where parts are case-hardened. Mr. Paxton leases office space plus 50 square feet of warehouse space to Design Service Corporation, a local engineering firm (E & E 1989).

Approximately 15 to 20 lathes are located in the shop area. Each lathe uses a 5-gallon bucket of cutting solution which is cycled from the bucket to the machine and back in a closed loop. Prior to 1984, the facility used a cutting fluid called Trim Sol which contained chlorinated paraffins. Trim Sol is sold as a concentrate which is diluted prior to use. The company changed cutting solutions 5 years ago and presently uses a synthetic-based solution called Diethanolamine. According to Mr. Paxton, this solution is never disposed of but is supplemented as it evaporates or is used (E & E 1989).

A hand wash station which is connected to the city sewer system is located adjacent to the office area (E & E 1989). A water-cooled welder is located at the south end of the building. Currently, noncontact cooling waters from the welder are discharged to a dry well of unknown depth which is located at the base of the loading dock. The dry well is capped with a perforated lid at ground level.

In addition to tooling steel parts, the facility also case-hardens steel parts on an intermittent basis. According to Mr. Paxton, case-hardening procedures take place approximately 2 days per month. To case-harden a part, the material is heated in a kiln of molten cyanide salt solution and then cooled in a quench tank. The quench tank is an unbermed 25-gallon drum of water. During the E & E site inspection, walls adjacent to the quench tank appeared to be stained, possibly from splashing, and apparent residue was observed on the wall. Prior to 1984, the quenched parts were rinsed in an overflowing rinse bath in a sink which drained to the dry well. Although the base of the sink has since been removed, the faucet assembly remains and is operational (E & E 1989). According to Mr. Paxton, the quenched parts are now being rinsed off in the hand wash area which discharges to the city sewer (E & E 1989).

Sludges left over from the hardening pot and the quench tank are stored on site in a 5-gallon bucket. Mr. Paxton said that these sludges have never accumulated to the degree that disposal has been necessary. During the E & E inspection, approximately 1 gallon of sludge wastes were observed in the bucket. Presently, the only discharge to the dry well is non-contact cooling water from the welder. A summary of the waste-related activities on site is presented in Table 1.

**Table 1**

**WASTE-RELATED ACTIVITIES ON SITE**

| Activity/Process | Dates | Waste(s) Produced | Storage/ Disposal Method(s) | Containment Features | Hazardous Constituents[1] |
|---|---|---|---|---|---|
| Case Hardening | 1969 to 1984 | Cyanide sludges | Open bucket | None | Cyanide (D) |
| | | Cyanide rinse water | Dry well | None | Cyanide (D) |
| | After 1984 | Cyanide sludges | Open bucket | None | Cyanide (D) |
| | | Cyanide rinse water | City sewer | None | Cyanide (D) |
| Metal Cutting | Since 1969 | Possible spent cutting solutions, scrap metal | Storage 5-gallon buckets, no disposal | None | Unknown |



1. (D) denotes the presence of constituent is documented through analytical testing.
   (A) denotes the presence of constituent is alleged.

## 2.3 Potential Contaminant Transport Pathways/Receptors

### 2.3.1 Surface Water

Paxton Sales Corporation is located approximately 2 miles west of the Yakima River, and 1.5 miles north of Wide Hollow Creek. The intervening terrain between the site and the Yakima River slopes at an average of less than 1 percent to the east (USGS). The majority of the Paxton site is paved and level. However, the loading dock slopes toward the dry well, and the garage area slopes toward 2nd Avenue. Surface water drainage from the site would most likely be toward unpaved 2nd Avenue.

In 1984, the Washington Department of Ecology (Ecology) responded to a citizen complaint concerning discharges from Paxton Sales Corporation. According to the complainant, runoff from the facility was flowing south down South 2nd Avenue and collecting in the road less than 25 feet from a residential well. No surface water discharges from the facility were noted during the E & E investigation.

### 2.3.2 Groundwater

Groundwater in the vicinity of Paxton Sales Corporation is used for domestic water supply as well as industrial pumpage (E & E 1989). Groundwater is believed to flow towards the southeast. Groundwater wells serve as an emergency supply source to augment the surface water supplies (Wick 1987). Residences south of the facility are outside of the city water service area. Many homes downgradient of Paxton Sales Corporation have domestic wells. Approximately 10,500 people are believed to use groundwater as their source of drinking water within 3 miles of the site (Ecology 1989a). Geologic logs of two wells sampled downgradient of the facility indicate that regional soil deposits predominately consist of sands and gravels (Ecology 1989b). The static water level of these wells recorded at installation was generally 15 feet below ground surface (bgs).

## 2.4 Investigative/Regulatory History

In 1984, Ecology responded to a citizen complaint to the Yakima Health District concerning discharges from Paxton Sales Corporation. Ecology conducted an inspection of the facility and sampled the discharge from the overflowing rinse. Sample analysis revealed 4.7 mg/L of total cyanide. Ecology estimated that approximately 1 gallon of rinse water was discharged to the dry well per day (EPA 1989). The discharge of these wastes was stopped in 1984 and the facility filed a state waste discharge permit in 1985. Permit #9030 was granted October 15, 1985, for the discharge of cyanide heat treatment waste water and cutting oil cleanup water to the Yakima Municipal sewer system. Presently, non-contact cooling water from the arc welder is permitted to discharge to the dry well.

A preliminary assessment conducted in 1988 noted the potential for cyanide wastes and cutting solutions disposed of in the dry well to migrate to the shallow aquifer (E & E 1988).

## 3.0 PROJECT DESCRIPTION

### 3.1 Sampling Objectives and Scope

As mentioned in Section 1.0, a Screening Site Inspection is primarily intended to gather sufficient data to enable evaluation of a site's potential for inclusion on the National Priorities List. Accordingly, the following sampling objectives were defined for the Paxton Sales Corporation SSI:

1. Characterize the chemical characteristics of sediment in the dry well.

2. Determine if groundwater produced by downgradient wells contains hazardous constituents associated with the site.

To accomplish these objectives, the following general field activities were conducted:

- o A sediment sample was collected from the on-site dry well.

- o Groundwater samples were collected from downgradient domestic wells and a background location.

### 3.2 Data Types, Uses, and Quality Requirements

The data types collected, intended data uses, and associated analytical quality requirements necessary to satisfy the sampling objectives are summarized in Table 2. Specific methods by which the necessary data were collected are described below.

## 4.0 SAMPLING PROGRAM

### 4.1 Sample Types, Numbers, Locations, and Rationale

One sediment sample and 3 domestic well samples were collected during a March 27, 1989 sampling effort. Due to questions concerning the analytical data, three domestic wells were resampled on June 9, 1989. Sampling locations are indicated in Figure 3. All samples were analyzed for the full range of EPA Target Compound List (TCL) substances as noted in Appendix A.

Two well samples (DW1 and DW2) were collected at residences south of the site. During the resampling effort the Baughman well (DW1 in the initial sampling) was not available for resampling; therefore, sample DW1' was collected at a neighboring residence (De Sart) instead. DW2

Table 2

DATA TYPES, USES, AND QUALITY REQUIREMENTS

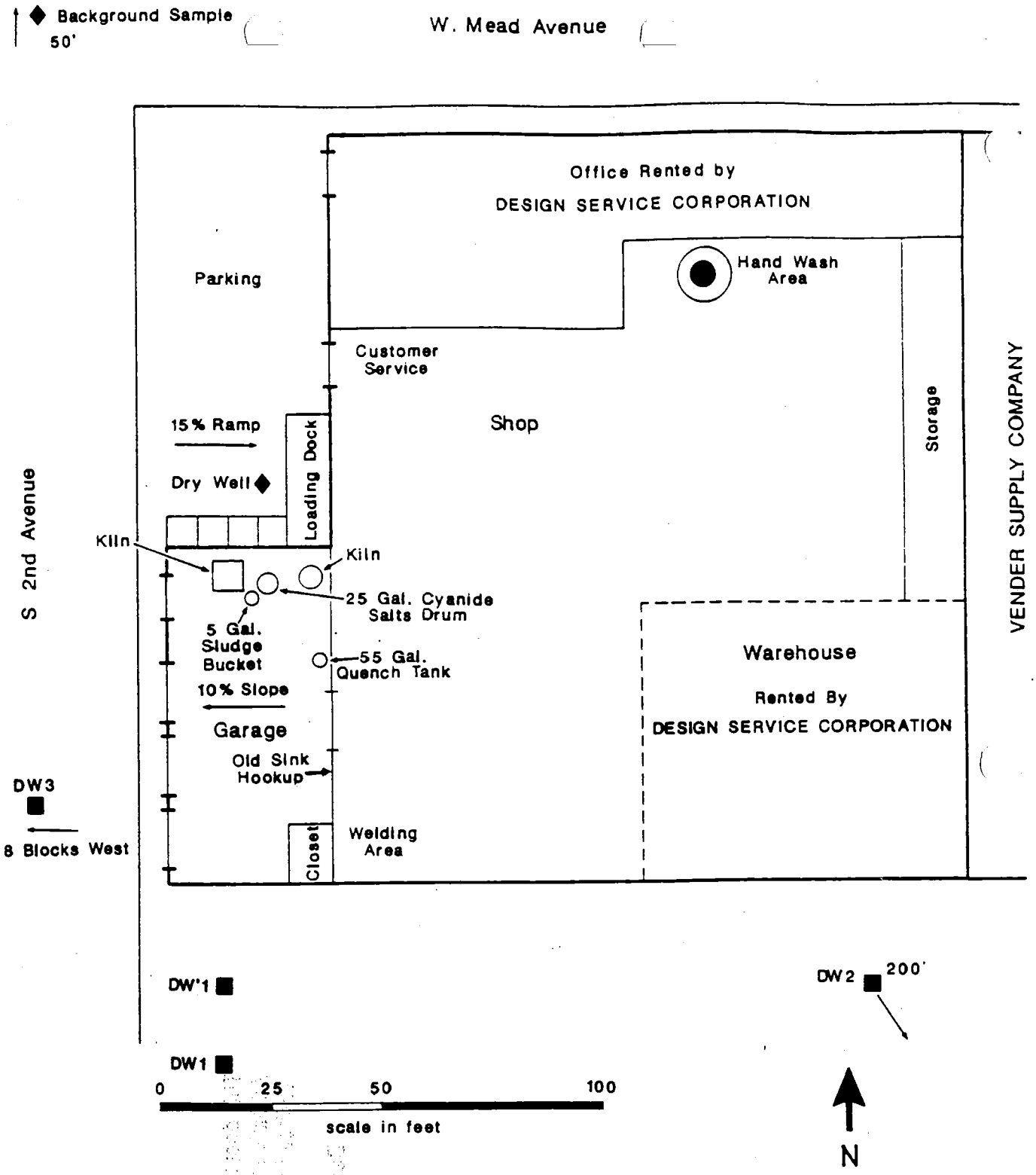
| Objective Number[1] | Data Types Collected | Prioritized Data Uses | Contaminants of Concern | Levels of Concern[2] | Analytical Progam Used[3] |
|---|---|---|---|---|---|
| 1 | Chemical characteristics of sediments in dry well | o Site characterization<br>o Public health evaluation | Volatiles, extractables, and inorganics including cyanide | ppb | CLP |
| 2 | Chemical characteristics of groundwater | o HRS score<br>o Site characterization<br>o Public health evaluation | Volatiles, extractables, and metals including cyanide | ppb | CLP |



1. See Section 3.1.

2. Levels of concern reflect anticipated environmental conditions at time of work plan preparation and subsequent analytical detection limits.

3. Analytical program(s) were specified in accordance with anticipated data uses and levels of concern. Data quality objectives for analytical programs (i.e., CLP, EPA Region Laboratory, and E & E's mobile or base support field screening laboratories) are described in the Region 10 FIT Quality Assurance Project Plan for Sampling Activities (E & E 1988).




LEGEND

- Domestic well sample
- Sediment sample

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FIGURE 3
SAMPLE LOCATION MAP
PAXTON SALES CORPORATION
Yakima, WA

was collected at the Sorenson residence. A background sample was collected from the Ward residence located eight blocks west of the site. Sample information including sample types, numbers, locations, and rationale are summarized in Table 3.

## 4.2 Sampling Methods

Media-specific sampling procedures used during the Paxton Sales Corporation SSI are described in the project work plan (E & E 1989) and are consistent with methodologies described in EPA's Compendium of Superfund Field Operations Methods (EPA 1987a).

## 4.3 Sample Analytical and Handling Requirements

Sample analytical requirements for the Paxton Sales Corporation SSI are summarized in Table 4. Included are descriptions of requested analytes, the analytical program used, sample-preservation techniques, and maximum sample holding times.

Due to the potential evidentiary nature of the data collected, all samples intended for analysis through the CLP or EPA Region 10 Laboratory were handled and documented in accordance with procedures specified in EPA's User's Guide to the Contract Laboratory Program (EPA 1986), CLP Statements of Work (EPA 1987b, EPA 1987c), and National Enforcement Investigations Center Policies and Procedures (EPA 1985). Sample packaging conformed with applicable Department of Transportation Regulations (49 CFR 171-177) and/or International Air Transport Association guidelines (IATA 1987) and in section 6.2 of the EPA Compendium of Superfund Field Operating Methods, Volume I (EPA 1987a). Organic samples were shipped for analysis within 24 hours of collection and inorganic samples were shipped within 5 working days of collection, unless otherwise indicated in Table 4. Shipment was via an overnight delivery service.

Sample documentation information for the project is summarized in Appendix B. Included in Appendix B are project numbers, account numbers, sample names, laboratory numbers, and chain-of-custody numbers.

## 4.4 Equipment Decontamination

To the greatest extent possible, disposable and/or dedicated personal protection and sampling equipment was utilized to avoid cross-contamination. Equipment decontamination, when necessary, was performed in accordance with procedures outlined in the project work plan (E & E 1989). Solvents were not used for decontamination during the sampling events for this project.

Following completion of the field work, all equipment was cleaned using pressurized steam and/or a hot water wash with nonphosphate detergent. Sampling equipment was then rinsed with potable water, sealed in plastic bags, and transferred to the E & E base support facility for full decontamination prior to reuse.

**Table 3**

**SAMPLE TYPES, NUMBERS, LOCATIONS, AND RATIONALE**

| Sample Matrix | Number of Samples Collected | Sample Type(s) | Sample Location(s) | Rationale |
|---|---|---|---|---|
| Sediment | 1 | Grab (VOCs)<br>Composite (all other fractions) | On-site dry well | Determine if hazardous constituents from cutting solutions and cyanide rinse waters are present in the dry well |
| Groundwater | 4 | Grab | Off site downgradient | Determine if possible hazardous constituents attributable to the site have migrated into the groundwater |
| | 2 | Grab | Off site upgradient | Establish background concentrations for groundwater samples |
| Quality Control - Water | 1 | | Transfer blank | |
| TOTAL | 8 | | | |

**Table 4**

**SAMPLE ANALYTICAL REQUIREMENTS**

| Sample Matrix | Number of Samples Collected | Sample Location(s) | Analytical Requirements[1] | Analytical Program[2] | Preservation Technique | Maximum Holding Time |
|---|---|---|---|---|---|---|
| Sediment | 1 | On-site dry well | VOC | CLP RAS | Ice | 7 days |
| | | | BNA | CLP RAS | Ice | 7 days |
| | | | Inorganics/Cyanide/ Mercury | CLP RAS | None | 6 months/14 days/ 28 days |
| Water | 8 | 6 Off site/ 2 Transfer blank | VOC | CLP RAS | HCL < 2 pH | 14 days |
| | | | BNA | CLP RAS | Ice | 7 days |
| | | | Inorganics | CLP RAS | $HNO_3$ < 2 pH | 6 months |
| | | | Mercury | | $HNO_3$ < 2 pH | 28 days |
| | | | Cyanide | | NAOH > 12 pH | 14 days |



1. VOC - EPA TCL Volatile Organic Compounds (see Appendix A)
   BNA - EPA TCL Base/Neutral/Acid extractable compounds (see Appendix A)
   Inorganics - EPA TCL Inorganics (see Appendix A)

2. CLP RAS - Contract Laboratory Programs Routine Analytical Services

## 5.0 SAMPLE RESULTS AND DISCUSSION

The following paragraphs present analytical data developed during this study. Photographic documentation is presented in Appendix C, data quality assurance review memoranda are presented in D, and a summary of the inspection is presented in Appendix E on EPA Form 2070-13. Field measurements of pH, conductivity, and temperature for groundwater sampling events are presented in Appendix F.

Within this report, various units of concentration are presented. Analytical data are presented as received from the laboratory after validation for analytical acceptability. Data excerpted from reference reports or other documents are presented without alteration. Commonly used units for soil samples include milligrams per kilogram (mg/kg) or parts per million (ppm); and micrograms per kilogram (µg/kg) or parts per billion (ppb). Aqueous samples are commonly reported as milligrams per liter (mg/L) or parts per million (ppm); and micrograms per liter (µg/L) or parts per billion (ppb).

Data are interpreted based on EPA Region 10 site assessment policy and guidance. In particular, conditions used to define an observed release (or elevated concentration) of a particular substance in any of the matrices samples are summarized below.

| If Background Concentration is: | Observed Release (Elevated Concentration) Occurs if Detected Concentration is: |
|---|---|
| Not detected. | Greater than or equal to 3 times the detection limit. |
| Greater than or equal to the detection limit, but less than 2 times the detection limit. | Greater than or equal to 3 times the applicable background concentration or greater than or equal to 4 times the detection limit, whichever is less. |
| Greater than or equal to 2 times the detection limit. | Greater than or equal to 2 times the applicable background concentration. |



### 5.1 Sediment Samples

#### 5.1.1 Inorganic Results

Inorganic results for the sediment sample collected from the dry well at Paxton Sales Corporation are summarized in Table 5. The sample contained several heavy metals whose concentrations exceeded those found in the off-site background sediment sample. However, it should be noted that the sediment is not native material and may be more appropriately classified as a sample of waste material. No background data were

available for cyanide, which was detected at an estimated concentration of 323 ppm in the sediment sample. The following elements were detected at elevated concentrations in the dry well sediment as compared to background soil elemental concentrations:

| | |
|---|---|
| Barium | 7,800 x background |
| Chromium | 7.9 x background |
| Cobalt | estimated at 8.1 x background |
| Copper | 114 x background |
| Iron | 23 x background |
| Lead | estimated at 2.2 x background |
| Mercury | estimated at 2.7 x background |
| Nickel | 11.7 x background |
| Sodium | 3.4 x background |
| Zinc | 42.9 x background |

### 5.1.2 Volatile Organic Results

Volatile organic results for the dry well sediment sample are summarized in Table 6. Acetone and methylene chloride are common laboratory contaminants. Tetrachloroethene is a common solvent. The three TCL aromatic compounds and 99.8 percent of the mass of the 19 Tentatively Identified Compounds (TICs) (see Appendix D) quantitated by the CLP laboratory are aliphatic or aromatic hydrocarbons, suggesting the presence of oil.

### 5.1.3 Semivolatile Organic Results

Semivolatile results for the dry well sediment sample are summarized in Table 7. The concentrations of all analytes detected are estimated quantities. The two phthalates found are common plasticizers. The source of 4-chloro-3-methylphenol is unknown. All other TCL and TIC semivolatile analytes are aromatic or aliphatic hydrocarbons, again suggesting the presence of oil. Pesticide and PCB data were judged unusable during data validation because of the complex sample matrix and, therefore, cannot be discussed (see Appendix D).

## 5.2 Groundwater Samples

### 5.2.1 Inorganic Results

To meet project data quality objectives, the domestic wells were sampled and analyzed twice. Results for both sampling episodes are presented and discussed below.

A total of four domestic wells were sampled: DW1, DW1', and DW2 (assumed to be downgradient), and DW3 (sidegradient of the site). Table 8A (initial sampling) and 8B (resampling) summarize inorganic elements detected in the wells.

Table 5

SUMMARY OF INORGANIC ANALYTICAL RESULTS FOR SEDIMENT SAMPLES
PAXTON SALES CORPORATION
YAKIMA, WASHINGTON
(mg/kg)

| Analyte | S1 Dry Well Sludges | BKG * Soil |
|---|---|---|
| Aluminum | 7,440 | 11,800 |
| Arsenic | 23.3 J | 33.1 |
| Barium | 827,000 | 106 |
| Beryllium | 0.13 UJ | 0.79 J |
| Cadmium | 6.7 | 4.4 |
| Calcium | 4,810 | 3,810 |
| Chromium | 169 | 21.3 U |
| Cobalt | 113 J | 14.0 UJ |
| Copper | 2,160 | 19.0 |
| Iron | 115,000 | 5,040 |
| Lead | 615 J | 274 |
| Magnesium | 2,490 | 3,480 |
| Manganese | 1,370 | 566 |
| Mercury | 0.30 J | 0.11 UJ |
| Nickel | 125 | 10.7 |
| Potassium | 1,010 UJ | 2,290 |
| Sodium | 1,820 | 531 U |
| Vanadium | 40.9 | 56.5 |
| Zinc | 2,550 | 59.5 |
| Cyanide | 323 J | -- |

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.

UJ - The material was analyzed for, but was not detected. The associated numerical value is an estimated quantity.

* - Collected at a background location in conjunction with a nearby site investigation at the CMX Corporation site which was conducted the same day (see TDD F10-8901-012).

-- - This analyte was not analyzed for.

Table 6

SUMMARY OF VOLATILE ORGANIC ANALYTICAL RESULTS
FOR THE SEDIMENT SAMPLE
PAXTON SALES CORPORATION
YAKIMA, WASHINGTON
(µg/kg)

| Analyte | S1 |
|---|---|
| Methylene Chloride | 31,000 |
| Acetone | 35,000 |
| Tetrachloroethene | 34,000 |
| Toluene | 31,000 |
| Ethylbenzene | 8,100 J |
| Xylene (total) | 94,000 |
| Total Unknown and TICs* | 3,358,000 J |

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.
* - See Appendix D for specific tentatively identified compounds.

Table 7

SUMMARY OF SEMIVOLATILE ORGANIC ANALYTICAL RESULTS
FOR THE SEDIMENT SAMPLE
PAXTON SALES CORPORATION
YAKIMA, WASHINGTON
(µg/kg)

| Analyte | S1 |
|---|---|
| Naphthalene | 23,000 J |
| 2-Methylnaphthalene | 17,000 J |
| 4-Chloro-3-methylphenol | 200,000 J |
| bis(2-Ethylhexyl)phthalate | 22,000 J |
| Di-n-octylphthalate | 14,000 J |
| Total Unknown and TICs* | 3,070,000 J |

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.
* - See Appendix D for specific tentatively identified compounds.

Table 8A

SUMMARY OF INORGANIC ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
PAXTON SALES CORPORATION
YAKIMA, WASHINGTON
Sampled March 27, 1989
(µg/L)

| Analyte | DW1 | DW2 | DW3 | Blank |
|---|---|---|---|---|
| Arsenic | 3.1 J | 3.4 J | 5.5 J | 1.9 U |
| Calcium | 41,100 | 38,800 | 46,600 | 203 U |
| Copper | 12.0 U | 12.0 U | 42.7 | 12.0 U |
| Iron | 18.6 J | 16.9 U | 16.9 U | 19.8 J |
| Magnesium | 10,500 | 9,960 | 12,900 | 207 U |
| Sodium | 12,000 | 11,500 | 19,800 | 113 J |
| Zinc | 22.3 | 48.9 | 62.4 | 15.3 U |
| Cyanide | 10.0 UJ | 10.0 UJ | 12.2 J | 17.0 J |

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.

UJ - The material was analyzed for, but was not detected. The associated numerical value is an estimated quantity.

Table 8B

SUMMARY OF INORGANIC ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
PAXTON SALES CORPORATION
YAKIMA, WASHINGTON
Sampled June 9, 1989
(µg/L)

| Analyte | DW1' | DW2 | DW3 | Blank |
|---|---|---|---|---|
| Arsenic | 3.80 J | 2.00 U | 68.80 | 9.20 J |
| Barium | 29.00 U | 31.10 J | 35.10 J | 29.00 U |
| Calcium | 36,800.00 | 7,580.00 | 43,100.00 | 7,410.00 |
| Copper | 37.30 | 97.70 J | 125.00 | 22.00 |
| Iron | 100.00 U | 100.00 U | 792.00 | 470.00 |
| Lead | 4.40 J | 16.00 J | 3.90 J | 2.00 J |
| Magnesium | 9,280.00 | 1,030.00 J | 12,000.00 | 1,030.00 J |
| Potassium | 3,900.00 J | 700.00 J | 4,200.00 | 540.00 U |
| Sodium | 11,000.00 | 381,000.00 | 18,900.00 | 2,540.00 J |
| Vanadium | 24.30 J | 19.00 U | 23.20 J | 19.00 U |
| Zinc | 234.00 | 54.30 J | 73.10 | 17.00 U |

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.

In the initial sampling, all detected elements occurred in concentrations less than the measured background or blank levels. In the resampling, DW2 was found to contain elevated levels of lead (estimated to be 4.1 x background) and sodium (20 x background). DW1' contained elevated levels of zinc (3.2 x background).

5.2.2 Volatile Organic Results

TCL and TIC volatile organic analytes from both sampling episodes are summarized in Table 9. No volatile organics were detected in the initial sampling. Only trace levels of chloromethane (estimated at 3 µg/L) and an unknown hydrocarbon (estimated at 2 µg/L) were found in resampled water.

Table 9

SUMMARY OF VOLATILE ORGANIC ANALYTICAL RESULTS
FOR GROUNDWATER SAMPLES
PAXTON SALES CORPORATION
YAKIMA, WASHINGTON
Initial Sampling March 27, 1989
Resampled June 9, 1989
(µg/L)

| Sampling | Analyte | DW1 | DW1' | DW2 | DW3 |
|---|---|---|---|---|---|
| March 27, 1989 | Chloromethane | 10 U | | 10 U | 10 U |
| June 9, 1989 | Chloromethane | -- | 10 UJ | 3 J | 10 UJ |
| June 9, 1989 | Unknown Hydrocarbon | -- | 2 J | -- | -- |

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.
J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.
UJ - The material was analyzed for, but was not detected. The associated numerical value is an estimated quantitation limit.
-- - Not detected.

5.2.3 Semivolatile Results

TCL and TIC semivolatile organic analytes from both sampling episodes are summarized in Table 10. No semivolatile organics were detected in the initial sampling. In the resampling, only bis(2-ethylhexyl)phthalate, a common plasticizer and laboratory contaminant, was detected.

5.2.4 Pesticide/Polychlorinated Biphenyl (PCB) Results

No pesticides or PCBs were detected above the EPA Contract Required Quantitation Limits (CRQLs) in any of the groundwater samples.

Table 10

SUMMARY OF SEMIVOLATILE ORGANIC ANALYTICAL RESULTS
FOR GROUNDWATER SAMPLES
PAXTON SALES CORPORATION
YAKIMA, WASHINGTON
Initial Sample March 27, 1989
Resampled June 9, 1989
(µg/L)

| Sampling | Analyte | DW1 | DW1' | DW2 | DW3 |
|---|---|---|---|---|---|
| March 27, 1989 | bis(2-ethylhexyl)phthalate | 10 U | -- | 10 U | 10 U |
| June 9, 1989 | bis(2-ethylhexyl)phthalate | -- | 280 | 10 U | 10 U |

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.

## 6.0 SUMMARY AND CONCLUSIONS

### 6.1 Summary

The Paxton Sales Corporation is an active machine shop located in Yakima, Washington. The facility has tooled and case-hardened steel parts since 1969. From 1969 to 1984, the facility disposed of cyanide waste waters that were generated from the secondary rinse tank in the dry well. According to Mr. Paxton, cutting solution wastes also may have been disposed of in the dry well.

Ecology conducted an investigation in 1984 in response to a citizen's complaint. A water sample collected from an overflowing rinse tank exhibited cyanide contamination. Residents living immediately south of the facility use the shallow aquifer for drinking water.

Groundwater samples were obtained during two sampling episodes conducted under this SSI. In the second sampling episode, zinc was found to be elevated above background. No elevated levels of organic contaminants were detected in any groundwater samples. Arsenic was detected at 68 µg/L during the resampling of the Ward well. The Primary Drinking Water Standard under the Safe Drinking Water Act for arsenic is 50 µg/L (40 CFR 141). The sediment sample collected from the dry well revealed elevated concentrations of several metals and what appears to be oil.

## 6.2 Conclusions

Zinc was detected in a downgradient residential well. However, the zinc concentration detected is below federal primary and secondary drinking water standards.

The dry well is located in an area accessible to workers and the sediments found in the well contain both organic and inorganic contaminants.

## REFERENCES


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_____, 1989, Paxton Sales Corporation, Yakima Washington, Site File, ID #WAD009246208.

## Appendix A

## EPA TARGET COMPOUND LIST (TCL)

## ANALYTICAL PROTOCOLS

The standardized organic analytical methods are based on Federal Register Methods 625 (Base/Neutral/Acid), 608 (Pesticide), 624 (Volatile Organic Analytes), EPA Methods for Chemical Analysis of Water and Wastes (MCAWW), and Test Methods for Evaluating Solid Wastes (SW-846) modified for CLP use in the analysis of both water and soil samples.

Table A-1

ORGANICS ANALYSES

| | Volatile Compounds | Contract Required Quantitation Limits * Low Concentration Water[a] (µg/L) | Low Concentration Soil/Sediment[b] (µg/kg) |
|---|---|---|---|
| 1. | Chloromethane | 10 | 10 |
| 2. | Bromomethane | 10 | 10 |
| 3. | Vinyl Chloride | 10 | 10 |
| 4. | Chloroethane | 10 | 10 |
| 5. | Methylene Chloride | 5 | 5 |
| 6. | Acetone | 10 | 10 |
| 7. | Carbon Disulfide | 5 | 5 |
| 8. | 1,1-Dichloroethene | 5 | 5 |
| 9. | 1,1-Dichloroethane | 5 | 5 |
| 10. | trans-1,2-Dichloroethene | 5 | 5 |
| 11. | Chloroform | 5 | 5 |
| 12. | 1,2-Dichloroethane | 5 | 5 |
| 13. | 2-Butanone | 10 | 10 |
| 14. | 1,1,1-Trichloroethane | 5 | 5 |
| 15. | Carbon Tetrachloride | 5 | 5 |
| 16. | Vinyl Acetate | 10 | 10 |
| 17. | Bromodichloromethane | 5 | 5 |
| 18. | 1,2-Dichloropropane | 5 | 5 |
| 19. | trans-1,3-Dichloropropene | 5 | 5 |
| 20. | Trichloroethene | 5 | 5 |
| 21. | Dibromochloromethane | 5 | 5 |
| 22. | 1,1,2-Trichloroethane | 5 | 5 |
| 23. | Benzene | 5 | 5 |
| 24. | cis-1,3-Dichloropropene | 5 | 5 |
| 25. | 2-Chloroethylvinylether | 10 | 10 |
| 26. | Bromoform | 5 | 5 |
| 27. | 2-Hexanone | 10 | 10 |
| 28. | 4-Methyl-2-Pentanone | 10 | 10 |
| 29. | Tetrachloroethene | 5 | 5 |
| 30. | 1,1,2,2-Tetrachloroethane | 5 | 5 |
| 31. | Toluene | 5 | 5 |
| 32. | Chlorobenzene | 5 | 5 |
| 33. | Ethyl Benzene | 5 | 5 |
| 34. | Styrene | 5 | 5 |
| 35. | Total Xylenes | 5 | 5 |

Table A-1 (Cont.)

| | Semivolatile Compounds | Contract Required Quantitation Limits * Low Concentration Water[c] (µg/L) | Low Concentration Soil/Sediment[d] (µg/kg) |
|---|---|---|---|
| 1. | Phenol | 10 | 330 |
| 2. | bis(-2-Chloroethyl)Ether | 10 | 330 |
| 3. | 2-Chlorophenol | 10 | 330 |
| 4. | 1,3-Dichlorobenzene | 10 | 330 |
| 5. | 1,4-Dichlorobenzene | 10 | 330 |
| 6. | Benzyl Alcohol | 10 | 330 |
| 7. | 1,2-Dichlorobenzene | 10 | 330 |
| 8. | 2-Methylphenol | 10 | 330 |
| 9. | bis(2-Chloroisopropyl)Ether | 10 | 330 |
| 10. | 4-Methylphenol | 10 | 330 |
| 11. | N-Nitroso-Di-n-propylamine | 10 | 330 |
| 12. | Hexachloroethane | 10 | 330 |
| 13. | Nitrobenzene | 10 | 330 |
| 14. | Isophorone | 10 | 330 |
| 15. | 2-Nitrophenol | 10 | 330 |
| 16. | 2,4-Dimethylphenol | 10 | 330 |
| 17. | Benzoic Acid | 50 | 1,600 |
| 18. | bis(2-Chloroethoxy)Methane | 10 | 330 |
| 19. | 2,4-Dichlorophenol | 10 | 330 |
| 20. | 1,2,4-Trichlorobenzene | 10 | 330 |
| 21. | Naphthalene | 10 | 330 |
| 22. | 4-Chloroanaline | 10 | 330 |
| 23. | Hexachlorobutadiene | 10 | 330 |
| 24. | 4-Chloro-3-Methylphenol | 10 | 330 |
| 25. | 2-Methylnaphthalene | 10 | 330 |
| 26. | Hexachlorocyclopentadiene | 10 | 330 |
| 27. | 2,4,6-Trichlorophenol | 10 | 330 |
| 28. | 2,4,5-Trichlorophenol | 50 | 1,600 |
| 29. | 2-Chloronaphthalene | 10 | 330 |
| 30. | 2-Nitroanaline | 50 | 1,600 |
| 31. | Dimethyl Phthalate | 10 | 330 |
| 32. | Acenaphthylene | 10 | 330 |
| 33. | 3-Nitroaniline | 50 | 1,600 |
| 34. | Acenaphthene | 10 | 330 |
| 35. | 2,4-Dinitrophenol | 50 | 1,600 |

Table A-1 (Cont.)

| | Semivolatile Compounds | Contract Required Quantitation Limits * Low Concentration Water[c] (µg/L) | Low Concentration Soil/Sediment[d] (µg/kg) |
|---|---|---|---|
| 36. | 4-Nitrophenol | 50 | 1,600 |
| 37. | Dibenzofuran | 10 | 330 |
| 38. | 2,4-Dinitrotoluene | 10 | 330 |
| 39. | 2,6-Dinitrotoluene | 10 | 330 |
| 40. | Diethylphthalate | 10 | 330 |
| 41. | 4-Chlorophenyl-phenylether | 10 | 330 |
| 42. | Fluorene | 10 | 330 |
| 43. | 4-Nitroaniline | 50 | 1,600 |
| 44. | 4,6-Dinitro-2-Methylphenol | 50 | 1,600 |
| 45. | N-Nitrosodiphenylamine | 10 | 330 |
| 46. | 4-Bromophenyl-phenylether | 10 | 330 |
| 47. | Hexachlorobenzene | 10 | 330 |
| 48. | Pentachlorophenol | 50 | 1,600 |
| 49. | Phenathrene | 10 | 330 |
| 50. | Anthracene | 10 | 330 |
| 51. | Di-n-Butylphthalate | 10 | 330 |
| 52. | Fluoranthene | 10 | 330 |
| 53. | Pyrene | 10 | 330 |
| 54. | Butylbenzylphthalate | 10 | 330 |
| 55. | 3,3'-Dichlorobenzidine | 20 | 660 |
| 56. | Benzo(a)Anthracene | 10 | 330 |
| 57. | bis(2-Ethylhexyl)Phthalate | 10 | 330 |
| 58. | Chrysene | 10 | 330 |
| 59. | Di-n-Octyl Phthalate | 10 | 330 |
| 60. | Benzo(b)Fluoranthene | 10 | 330 |
| 61. | Benzo(k)Fluoranthene | 10 | 330 |
| 62. | Benzo(a)Pyrene | 10 | 330 |
| 63. | Indeno(1,2,3-cd)Pyrene | 10 | 330 |
| 64. | Dibenz(a,h)Anthracene | 10 | 330 |
| 65. | Benzo(g,h,i)Perylene | 10 | 330 |

Table A-1 (Cont.)

| | Pesticide/ Polychlorinated Biphenyl Compounds | Contract Required Quantitation Limits * Low Concentration Water[e] (µg/L) | Low Concentration Soil/Sediment[f] (µg/kg) |
|---|---|---|---|
| 1. | Alpha-BHC | .05 | 8 |
| 2. | Beta-BHC | .05 | 8 |
| 3. | Delta-BHC | .05 | 8 |
| 4. | Gamma-BHC (Lindane) | .05 | 8 |
| 5. | Heptachlor | .05 | 8 |
| 6. | Aldrin | .05 | 8 |
| 7. | Heptachlor Epoxide | .05 | 8 |
| 8. | Endosulfan I | .05 | 8 |
| 9. | Dieldrin | .1 | 16 |
| 10. | 4,4'-DDE | .1 | 16 |
| 11. | Endrin | .1 | 16 |
| 12. | Endosulfan II | .1 | 16 |
| 13. | 4,4'-DDD | .1 | 16 |
| 14. | Endosulfan Sulfate | .1 | 16 |
| 15. | 4,4'-DDT | .1 | 16 |
| 16. | Methoxychlor | .5 | 80 |
| 17. | Endrin Ketone | .1 | 16 |
| 18. | Chlordane | .5 | 80 |
| 19. | Toxaphene | 1.0 | 160 |
| 20. | AROCLOR-1016 | .5 | 80 |
| 21. | AROCLOR-1221 | .5 | 80 |
| 22. | AROCLOR-1232 | .5 | 80 |
| 23. | AROCLOR-1242 | .5 | 80 |
| 24. | AROCLOR-1248 | .5 | 80 |
| 25. | AROCLOR-1254 | 1.0 | 160 |
| 26. | AROCLOR-1260 | 1.0 | 160 |

* Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

a Medium Water Contract Required Quantitation Limits (CRQL) for Volatile Target Compound List (TCL) Compounds are 100 times the individual Low Water CRQL.

Table A-1 (Cont.)

b Medium Soil/Sediment Contract Required Quantitation Limits (CRQL) for Volatile TCL Compounds are 100 times the individual Low Soil/Sediment CRQL.

c Medium Water Contract Required Quantitation Limits (CRQL) for Semivolatile TCL Compounds are 100 times the individual Low Water (CRQL).

d Medium Soil/Sediment Contract Required Quantitation Limits (CRQL) for Semivolatile TCL Compounds are 60 times the individual Low Soil/Sediment (CRQL).

e Medium Water Contract Required Quantitation Limits (CRQL) for Pesticide/PCB TCL Compounds are 100 times the individual Low Water (CRQL).

f Medium Soil/Sediment Contract Required Quantitation Limits (CRQL) for Pesticide/PCB TCL Compounds are 60 times the individual Low Soil/Sediment (CRQL).

Table A-2

INORGANIC ANALYSES

| Element | Contract Required Quantitation Limits * Low Concentration Water (µg/L) |
|---|---|
| Aluminum | 200 |
| Antimony | 60 |
| Arsenic | 10 |
| Barium | 200 |
| Beryllium | 5 |
| Cadmium | 5 |
| Calcium | 5,000 |
| Chromium | 10 |
| Cobalt | 50 |
| Copper | 25 |
| Iron | 100 |
| Lead | 5 |
| Magnesium | 5,000 |
| Manganese | 15 |
| Mercury | 0.2 |
| Nickel | 40 |
| Potassium | 5,000 |
| Selenium | 5 |
| Silver | 10 |
| Sodium | 5,000 |
| Thallium | 10 |
| Vanadium | 50 |
| Zinc | 20 |
| Cyanide | 10 |

* Specific detection limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

## Appendix B

## SAMPLE DOCUMENTATION RECORD

ECOLOGY & ENVIRONMENT, INC.
SAMPLE SUMMARY REPORT
REGION X

Site Name: PAXTON SALES
TDD: 8901-015 PAN: FWA0572SA

| | | | | | |
|---|---|---|---|---|---|
| Case #1: | 11643 | SAS #1: | | Lab #1: | LAUCKS |
| Case #2: | 11643 | SAS #2: | | Lab #2: | ICM |
| Case #3: | 12098 | SAS #3: | | Lab #3: | SWOK |
| Case #4: | | SAS #4: | 4695J | Lab #4: | CHEM |

| Sample Description | EPA/FASP Sample Number | Lab Sample Number | Collection Date | Matrix | Analysis | Lab | Storet |
|---|---|---|---|---|---|---|---|
| DRY WELL SEDIMENT | 89134640 | MJE 788 | 03/27/89 | SOIL | MET/CN | 1 | |
| DRY WELL SEDIMENT | 89134640 | JE 701 | 03/27/89 | SOIL | VOA/BN/Pest/PCB | 2 | |
| SORENSON / DW2 | 89134641 | MJE 789 | 03/27/89 | WATER | MET/CN | 1 | |
| SORENSON / DW2 | 89134641 | JE 702 | 03/27/89 | WATER | VOA/BN/Pest/PCB | 2 | |
| BAUGHMAN/ DW1 | 89134642 | MJE 790 | 03/27/89 | WATER | MET/CN | 1 | |
| BAUGHMAN/ DW1 | 89134642 | JE 703 | 03/27/89 | WATER | VOA/BN/Pest/PCB | 2 | |
| WARD/ DW 3 | 89134643 | MJE 791 | 03/27/89 | WATER | MET/CN | 1 | |
| WARD/ DW 3 | 89134643 | JE 704 | 03/27/89 | WATER | VOA/BN/Pest/PCB | 2 | |
| SORENSON WELL/ DW2 | 89234580 | MJE728 | 06/09/89 | WATER | MET/CN/* | 4 | |
| SORENSON WELL/ DW2 | 89234580 | JB802 | 06/09/89 | WATER | Organics/* | 3 | |
| DE SART WELL/ DW1 | 89234581 | MJE729 | 06/09/89 | WATER | MET/CN/* | 4 | |
| DE SART WELL/ DW1 | 89234581 | JB803 | 06/09/89 | WATER | Organics/* | 3 | |
| WARD WELL/BKGND/DW3 | 89234582 | MJE730 | 06/09/89 | WATER | MET/CN/* | 4 | |
| WARD WELL/BKGND/DW3 | 89234582 | JB804 | 06/09/89 | WATER | Organics/* | 3 | |
| TRANSFER/ DW4 | 89234583 | MJE731 | 06/09/89 | WATER | MET/CN/* | 4 | |
| TRANSFER/ DW4 | 89234583 | JB805 | 06/09/89 | WATER | Organics/* | 3 | |

## Appendix C

## PHOTOGRAPHIC DOCUMENTATION

## PHOTO IDENTIFICATION SHEET

TYPE OF CAMERA: Olympus

TYPE OF FILM: 35mm ASA 400

TDD and PAN NOS.: F10-8901-015; FWA0572SA

SITE NAME: Paxton Sales Coporation

| Frame No. | Roll No. | Date | Time | Taken By | Witnessed By | Description of Photo |
|---|---|---|---|---|---|---|
| 1 | 1 | 01/31/89 | 1400 | S. Niemuth | M. Bandrowski | West side of facility. |
| 2 | 1 | 01/31/89 | 1412 | S. Niemuth | M. Bandrowski | South side of building. |
| 3 | 1 | 01/31/89 | 1425 | S. Niemuth | M. Bandrowski | Shop area. |
| 4 | 1 | 01/31/89 | 1430 | S. Niemuth | M. Bandrowski | Area leased by Design Service Corporation. |
| 5 | 1 | 01/31/89 | 1437 | S. Niemuth | M. Bandrowksi | Cyanide salts and case-harding pot. |
| 6 | 1 | 01/31/89 | 1447 | S. Niemuth | M. Bandrowski | 25-gallon quench tank. |
| 7 | 1 | 01/31/89 | 1415 | S. Niemuth | M. Bandrowski | Loading dock. |
| 8 | 1 | 01/31/89 | 1418 | S. Niemuth | M. Bandrowski | Hose from water-cooled welder and the dry well. |
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## Appendix D

## QUALITY ASSURANCE MEMORANDA

ecology and environment, inc.
101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537
International Specialists in the Environment

MEMORANDUM

DATE: June 9, 1989

FOR: Rhonda Wreggelsworth, RSCC, USEPA, Region X

THRU: Jeffrey Villnow, FIT-OM. E & E, Seattle

FROM: David A. Ikeda, Chemist, E & E, Seattle
Tracy Yerian, Senior Chemist, E & E, Seattle

SUBJ: QA of Case 11643 (Organics)
Paxton Sales

REF: F10-8904-007
PAN F10Z094QA

CC: John Osborn, PO, USEPA, Region X
Bruce Woods, ESD-DPO, USEPA, Region X
Gerald Muth, DPO, Region X Laboratory, Manchester
Lou Bevilacqua, DPO, USEPA, Region II
Deborah Flood, HWD-SM, USEPA, Region X
Joseph Hunt, FIT-PD, E & E, Seattle
Gerald Lee, FIT-PM, E & E, Seattle

The Quality Assurance review of five samples, Case 11643, collected from Paxton Sales, has been completed. Four water samples were analyzed at low level and one soil sample was analyzed at medium level for TCL Organics by ICM Laboratories of Randolph, New Jersey. The samples were numbered:

JE701 (Soil)
JE702 (Water)
JE703 (Water)
JE704 (Water)
JE705 (Water)

Samples JE701 and JE702 underwent matrix spike and matrix spike duplicate analysis.

## Data Qualifications

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in IFB WA-87K236-238, following Laboratory Data Validation Functional Guidelines for Evaluating Organics Analysis (February 1, 1988).

1) Timeliness

| Sample Number | Sample Date | Rec'd Date | VOA Anal. | BNA Ext. | BNA Anal. | Pest. Ext. | Pest. Anal. |
|---|---|---|---|---|---|---|---|
| JE701 | 03/27/89 | 03/29/89 | 04/04/89 | 04/06/89 | 04/06/89 | 04/06/89 | 04/13/89 |
| JE702 | 03/27/89 | 03/29/89 | 04/04/89 | 03/31/89 | 04/13/89 | 04/03/89 | 04/12/89 |
| JE703 | 03/27/89 | 03/29/89 | 04/04/89 | 03/31/89 | 04/13/89 | 04/03/89 | 04/12/89 |
| JE704 | 03/27/89 | 03/29/89 | 04/04/89 | 03/31/89 | 04/13/89 | 04/03/89 | 04/12/89 |
| JE705 | 03/27/89 | 03/29/89 | 04/04/89 | 03/31/89 | 04/13/89 | 04/03/89 | 04/12/89 |

All samples met holding time criteria for volatiles, semivolatiles, and pesticides, except:

| Sample Number | Matrix | Fraction | Sampling Date | Extraction Date | Time Elapsed | QC Criteria |
|---|---|---|---|---|---|---|
| JE701 | Soil | BNA | 03/29/89 | 04/06/89 | 8 days | 7 days |
| JE701 | Soil | Pest/PCB | 03/29/89 | 04/06/89 | 8 days | 7 days |

Data, by sample and fraction, was flagged "J" (estimated quantity) or "UJ" (not detected, adjusted quantitation limit) as appropriate.

2) Instrument Tuning

All tuning check compound mass abundances and ratios were within contract required limits for volatile and semivolatile analysis.

3) Initial Calibration

All SPCC compounds were within contract required limits for the initial calibration with average Relative Response Factors (RRFs) above 0.05 for volatiles and semivolatiles. All CCC compounds were within contract required limits for the initial calibration with Percent Relative Standard Deviations (RSDs) below 30 percent.

All non-SPCC compounds had average RRFs of greater than or equal to 0.05 in the initial volatile or semivolatile calibration.

All non-CCC compounds had percent RSDs less than or equal to 30 percent for the initial volatile or semivolatile calibration, except:

| Date | Fraction | Compound | RSD | Associated Samples |
|---|---|---|---|---|
| 03/30/89 | VOA | Methylene chloride | 37.3 | * |
| | | 2-Butanone | 64.2 | |
| | | 1,1,1-Trichloroethane | 41.0 | |
| 04/03/89 | VOA | 2-Butanone | 73.8 | JE701 |
| 04/12/89 | BNA | Benzoic acid | 31.0 | All samples |
| | | 2,4-Dinitrophenol | 40.2 | |
| | | Di-n-butylphthalate | 32.2 | |
| | | Indeno(1,2,3-cd)pyrene | 47.6 | |
| | | Dibenz(a,h)anthracene | 43.6 | |
| | | Benzo(g,h,i)perylene | 57.9 | |

* JE702, JE703, JE704, JE705

For samples associated with the corresponding calibration and TCL compounds listed above, positive results and sample quantitation limits were flagged as estimated (J or UJ), as a high percent RSD is indicative of poor system linearity.

4) Continuing Calibrations

All SPCC compounds were at or above the contract required Relative Response Factor (RRF(50)) criteria of 0.05 for volatiles and semivolatiles. All CCC compounds were at or below the contract required Relative Percent Difference (RPD) limits of 25 percent for the volatile and semivolatile continuing calibrations.

All non-SPCC compounds had RRF(50)s of greater than or equal to 0.05 for continuing volatile and semivolatile calibrations.

All non-CCC compounds that were detected in the sample had percent difference (%D) values for the continuing calibration less than or equal to 25 percent.

5) Blanks

Frequency criteria was met for laboratory blank analysis.

The following compounds were detected in laboratory blanks at levels above IDL, but below CRQL for TCL compounds:

| Blank ID | Fraction | Compound | Matrix | Conc. | CRQL mg/kg | Associated Samples |
|---|---|---|---|---|---|---|
| VBLKM1 | VOA | Methylene chloride | Soil | 6 | 5 | JE701 |
| | | Acetone | | 24 | 10 | |
| VBLKW1 | VOA | Methylene chloride | Water | 14 | 5 | * |
| | | Acetone | | 19 | 10 | |

* JE702, JE703, JE704, JE705

Reported levels of the above compounds in the samples were flagged "UJ" (adjusted quantitation limit) if the concentrations were below five times the concentrations found in the appropriate blank (10 times for common solvents).

The following Tentatively Identified Compounds (TICs) were identified in the laboratory blanks:

| Blank ID | Fraction | Compound | Matrix | RT | Est. Conc. | Associated Samples |
|---|---|---|---|---|---|---|
| VBLKM1 | VOA | Unknown Hexane Isomer | Soil | 21.73 | 4 | JE701 |
| VBLKW2 | VOA | Unknown Hexane Isomer | Water | 21.65 | 10 | * |

* JE702, JE703, JE704, JE705

Reported levels of these compounds found in the samples were flagged "UJ" (adjusted quantitation limit) if the reported concentration was less than 10 times the concentration found in the appropriate blank.

6) Pesticide Standards

a) Linearity

The evaluation standards met the contract required limits of less than 10 percent RSD for linearity.

b) DDT Retention Time

The retention time for DDT on the primary and secondary GC column met or exceeded 12 minutes for the standard runs.

c) Retention Time Windows

The retention time windows met the contract specifications.

d) Analytical Sequence

The analytical sequence met the contract required frequency and order.

e) 4,4'-DDT/Endrin Degradation

The percent breakdown for Endrin and DDT met the contract limit of 20 percent for the individual or combined breakdown totals.

f) Dibutylchlorendate Retention Time Shift

The Percent Difference calculated for the retention time of dibutylchlorendate did not exceed 2 percent for the packed columns.

7) Surrogate Recovery

Recoveries (%R) for all surrogate compounds for volatile and semivolatile analysis met QC criteria, except:

| Sample Number | Fraction | Compound | Matrix | %R | QC Limits |
|---|---|---|---|---|---|
| JE701MSD | BNA | Phenol-d5 | Soil | 128 | 24 - 113 |

All sample volatile and semivolatile surrogate analysis met contract specifications. There were no samples with two or more surrogate compounds out of QC limits.

Recoveries for dibutylchlorendate (pesticide/PCB surrogate) met advisory QC guidelines, except:

| Sample Number | Fraction | Compound | Matrix | %R | QC Limits |
|---|---|---|---|---|---|
| JE704 | Pest/PCB | Dibutylchlorendate | Water | 156 | 24 - 154 |
| JE701 | Pest/PCB | Dibutylchlorendate | Soil | 0* | 20 - 150 |
| JE701MS | Pest/PCB | Dibutylchlorendate | Soil | 0* | 20 - 150 |
| JE701MSD | Pest/PCB | Dibutylchlorendate | Soil | 0* | 20 - 150 |

* Pesticide surrogate was diluted out.

No action was taken specifically based on the pesticide surrogate recovery for sample JE701.

8) Matrix Spike and Matrix Spike Duplicate

All Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Percent Recoveries (%Rs) met advisory QC guidelines, except:

| Sample Number | Fraction | Compound | Matrix | %R | QC Limits |
|---|---|---|---|---|---|
| JE701MS | BNA | Phenol | Soil | 102 | 26 - 90 |
| JE701MSD | BNA | Phenol | Soil | 110 | 26 - 90 |
| JE702MS | Pest/PCB | 4,4'-DDT | Water | 129 | 38 - 127 |
| JE702MSD | Pest/PCB | 4,4'-DDT | Water | 139 | 38 - 127 |
| JE701MS | Pest/PCB | gamma-BHC | Soil | 915 | 46 - 127 |
| | | Heptachlor | | 847 | 35 - 130 |
| | | Aldrin | | 1,455 | 34 - 132 |
| | | Dieldrin | | 452 | 31 - 134 |
| | | Endrin | | 992 | 42 - 139 |
| | | 4,4'-DDT | | 4,961 | 23 - 134 |
| JE701MSD | Pest/PCB | gamma-BHC | Soil | 913 | 46 - 127 |
| | | Heptachlor | | 881 | 35 - 130 |
| | | Aldrin | | 1,479 | 34 - 132 |
| | | Dieldrin | | 614 | 31 - 134 |
| | | 4,4'-DDT | | 5,313 | 23 - 134 |

Positive results for the above compounds were flagged as estimated (J) for sample JE702. No action was taken specifically as a result of matrix spike analyses for sample JE701.

All RPD values for the MS and MSD were within QC guidelines, except:

| Sample Number | Fraction | Compound | Matrix | RPD | QC Limits |
|---|---|---|---|---|---|
| JE701 | VOA | Toluene | Soil | 35 | 21 |
| JE701 | Pest/PCB | Endrin | Soil | 160 | 45 |

No action was taken specifically as a result of matrix spike analyses for sample JE701.

9) Internal Standard Recovery

All internal standard areas were within established QC limits, except:

| Analysis Date | Internal Standard | Standard Area | QC Lower Limit | QC Upper Limit | Associated Samples |
|---|---|---|---|---|---|
| 04/14/89 | D12-Perylene | 44763 | 125136 | 500542 | JE701 |
| 04/14/89 | D12-Perylene | 55899 | 125136 | 500542 | JE701MS |
| 04/14/89 | 1,4-Dichlorobenzene | 36007 | 36673 | 146692 | JE701MSD |
| | D12-Perylene | 41587 | 125136 | 500542 | |
| 04/18/89 | D12-Perylene | 53751 | 172503 | 690012 | JE701RE |
| 04/21/89 | D12-Perylene | 46114 | 136847 | 547386 | JE701MSRE |
| 04/21/89 | D12-Perylene | 40472 | 136847 | 547386 | JE701MSDRE |

No action was taken specifically as a result of internal standard recovery for sample JE701.

10) Sample Analysis

In the professional judgement of the reviewer, based on matrix spike analysis results, surrogate recovery results, and internal standard recovery results, the laboratory was unable to overcome complex matrix effects on the pesticide fraction for sample JE701.

All pesticide results for sample JE701 were flagged as unusable (R). All reported results above IDLs but below Contract Required Quantitation Limit (CRQL) were flagged as estimated (J) on the Data Sheets.

11) Laboratory Contact

The laboratory was contacted on June 2, 1989 (see attached telephone log).

Data Use

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses" (February 1, 1988).

Upon consideration of the data qualifications noted above, the data are ACCEPTABLE for use except where flagged with data qualifiers which modify the usefulness of the individual values.

This QA memorandum completes the series of QA reviews of CLP and/or EPA lab data for samples collected during the Site Inspection identified on the cover page under the heading Paxton Sales.

Data Qualifiers

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.

UJ - The material was analyzed for, but was not detected. The associated numerical value is an estimated quantitation limit.

R - Quality Control indicates that data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification.

N - Presumptive evidence of presence of material (tentative identification).

M - Mass spectral criteria for positive identification were not met. However, in the opinion of the laboratory, the identification is correct based on the analyst's professional judgement.

X - The reported result may be a combination of indistinguishable isomers.

ORG/11643

In Reference to Case No(s):
11643

# Contract Laboratory Program
# REGIONAL/LABORATORY COMMUNICATION SYSTEM

## Telephone Record Log

Date of Call: 2 JUNE 1989

Laboratory Name: ICM LABORATORIES

Lab Contact: ANNA RAY

Region: X

Regional Contact: TRACY VERIAN

Call Initiated By: ____ Laboratory X Region

In reference to data for the following sample number(s):
JE701, JE702, JE703, JE704, JE705

Summary of Questions/Issues Discussed:
MISSING FORM I-E (VOA TIC) FOR VBLKM2

Summary of Resolution:
VBLKM2 APPLIED TO JE701MS AND JE701MSD, THEREFORE LABORATORY NOT REQUIRED TO SUBMIT DATA.



Tracy Verian
Signature

6-2-89
Date

Distribution: (1)Lab Copy, (2)Region Copy, (3)SMO Copy

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE701

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: .004 (g/mL) G Lab File ID: A1249

Level: (low/med) MED Date Received: 3/29/89

% Moisture: not dec. 35. Date Analyzed: 4/ 3/89

Column: (pack/cap) PACK Dilution Factor: 1250.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 19000. | U |
| 74-83-9 | Bromomethane | 19000. | U |
| 75-01-4 | Vinyl Chloride | 19000. | U |
| 75-00-3 | Chloroethane | 19000. | U |
| 75-09-2 | Methylene Chloride | 31000. | |
| 67-64-1 | Acetone | 35000. | |
| 75-15-0 | Carbon Disulfide | 9600. | U |
| 75-35-4 | 1,1-Dichloroethene | 9600. | U |
| 75-34-3 | 1,1-Dichloroethane | 9600. | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 9600. | U |
| 67-66-3 | Chloroform | 9600. | U |
| 107-06-2 | 1,2-Dichloroethane | 9600. | U |
| 78-93-3 | 2-Butanone | 19000. | U |
| 71-55-6 | 1,1,1-Trichloroethane | 9600. | U |
| 56-23-5 | Carbon Tetrachloride | 9600. | U |
| 108-05-4 | Vinyl Acetate | 19000. | U |
| 75-27-4 | Bromodichloromethane | 9600. | U |
| 78-87-5 | 1,2-Dichloropropane | 9600. | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 9600. | U |
| 79-01-6 | Trichloroethene | 9600. | U |
| 124-48-1 | Dibromochloromethane | 9600. | U |
| 79-00-5 | 1,1,2-Trichloroethane | 9600. | U |
| 71-43-2 | Benzene | 9600. | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 9600. | U |
| 75-25-2 | Bromoform | 9600. | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 19000. | U |
| 591-78-6 | 2-Hexanone | 19000. | U |
| 127-18-4 | Tetrachloroethene | 34000. | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 9600. | U |
| 108-88-3 | Toluene | 31000. | |
| 108-90-7 | Chlorobenzene | 9600. | U |
| 100-41-4 | Ethylbenzene | 8100. | J |
| 100-42-5 | Styrene | 9600. | U |
| 1330-20-7 | Xylene (total) | 94000. | |

15 JUNE

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTA( ELY IDENTIFIED COMPOUNDS(

EPA SAMPLE NO.

JE701

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: .004(g/mL) G  Lab File ID: A1249

Level: (low/med) MED  Date Received: 3/29/89

% Moisture: not dec. 35.  Date Analyzed: 4/ 3/89

Column: (pack/cap) PACK  Dilution Factor: 1250.00

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

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 563-80-4 | 2-Butanone, 3-methyl- (8CI9C | 18.31 | 8000. | J |
| 2. | - - | UNKNOWN HEXANE ISOMER | 21.72 | 20000. | J |
| 3. | - - | UNKNOWN | 29.10 | 30000. | J |
| 4. | 3868-64-2 | Pentalene, octahydro-2-methy | 29.45 | 200000. | J |
| 5. | 4926-78-7 | Cyclohexane, 1-ethyl-4-methy | 31.20 | 90000. | J |
| 6. | 6236-88-0 | Cyclohexane, 1-ethyl-4-methy | 32.21 | 10000. | J |
| 7. | 1678-92-8 | Cyclohexane, propyl- (8CI9CI | 35.08 | 200000. | J |
| 8. | - - | UNKNOWN HYDROCARBON | 38.22 | 400000. | J |
| 9. | - - | UNKNOWN HYDROCARBON | 40.01 | 100000. | J |
| 10. | 98-82-8 | 1-methylethyl Benzene | 43.15 | 500000. | J |
| 11. | 611-14-3 | 1-ethyl-2-methyl Benzene | 44.82 | 300000. | J |
| 12. | - - | UNKNOWN HYDROCARBON | 47.62 | 80000. | J |
| 13. | - - | UNKNOWN | 53.05 | 200000. | J |
| 14. | - - | UNKNOWN HYDROCARBON | 56.35 | 100000. | J |
| 15. | 526-73-8 | 1,2,3-trimethyl Benzene | 58.02 | 100000. | J |
| 16. | - - | UNKNOWN | 61.32 | 60000. | J |
| 17. | 620-14-4 | Benzene, 1-ethyl-3-methyl- ( | 65.04 | 700000. | J |
| 18. | 622-96-8 | 1-ethyl-4methyl Benzene | 68.77 | 200000. | J |
| 19. | 1678-98-4 | 2-methylpropyl Cyclohexane | 51.08 | 80000. | J |
| 20. | | | | | |
| 21. | | | | | |
| 22. | | | | | |
| 23. | | | | | |
| 24. | | | | | |
| 25. | | | | | |
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| 30. | | | | | |

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE701

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1.0 (g/mL) G Lab File ID: F0186

Level: (low/med) MED Date Received: 3/29/89

% Moisture: not dec. 35. dec. 35. Date Extracted: 4/ 6/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/14/89

GPC Cleanup: (Y/N) N pH: 8.4 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 31000. | U |
| 111-44-4 | bis(2-Chloroethyl)ether | 31000. | U |
| 95-57-8 | 2-Chlorophenol | 31000. | U |
| 541-73-1 | 1,3-Dichlorobenzene | 31000. | U |
| 106-46-7 | 1,4-Dichlorobenzene | 31000. | U |
| 100-51-6 | Benzyl alcohol | 31000. | U |
| 95-50-1 | 1,2-Dichlorobenzene | 31000. | U |
| 95-48-7 | 2-Methylphenol | 31000. | U |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 31000. | U |
| 106-44-5 | 4-Methylphenol | 31000. | U |
| 621-64-7 | N-Nitroso-di-n-propylamine | 31000. | U |
| 67-72-1 | Hexachloroethane | 31000. | U |
| 98-95-3 | Nitrobenzene | 31000. | U |
| 78-59-1 | Isophorone | 31000. | U |
| 88-75-5 | 2-Nitrophenol | 31000. | U |
| 105-67-9 | 2,4-Dimethylphenol | 31000. | U |
| 65-85-0 | Benzoic acid | 150000. | U |
| 111-91-1 | bis(2-Chloroethoxy)methane | 31000. | U |
| 120-83-2 | 2,4-Dichlorophenol | 31000. | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 31000. | U |
| 91-20-3 | Naphthalene | 23000. | J |
| 106-47-8 | 4-Chloroaniline | 31000. | U |
| 87-68-3 | Hexachlorobutadiene | 31000. | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 200000. | U |
| 91-57-6 | 2-Methylnaphthalene | 17000. | J |
| 77-47-4 | Hexachlorocyclopentadiene | 31000. | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 31000. | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 150000. | U |
| 91-58-7 | 2-Chloronaphthalene | 31000. | U |
| 88-74-4 | 2-Nitroaniline | 150000. | U |
| 131-11-3 | Dimethylphthalate | 31000. | U |
| 208-96-8 | Acenaphthylene | 31000. | U |
| 606-20-2 | 2,6-Dinitrotoluene | 31000. | U |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE701

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1.0 (g/mL) G Lab File ID: F0186

Level: (low/med) MED Date Received: 3/29/89

% Moisture: not dec. 35. dec. 35. Date Extracted: 4/ 6/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/14/89

GPC Cleanup: (Y/N) N pH: 8.4 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 150000. | U |
| 83-32-9 | Acenaphthene | 31000. | U |
| 51-28-5 | 2,4-Dinitrophenol | 150000. | U |
| 100-02-7 | 4-Nitrophenol | 150000. | U |
| 132-64-9 | Dibenzofuran | 31000. | U |
| 121-14-2 | 2,4-Dinitrotoluene | 31000. | U |
| 84-66-2 | Diethylphthalate | 31000. | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 31000. | U |
| 86-73-7 | Fluorene | 31000. | U |
| 100-01-6 | 4-Nitroaniline | 150000. | U |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 150000. | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 31000. | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 31000. | U |
| 118-74-1 | Hexachlorobenzene | 31000. | U |
| 87-86-5 | Pentachlorophenol | 150000. | U |
| 85-01-8 | Phenanthrene | 31000. | U |
| 120-12-7 | Anthracene | 31000. | U |
| 84-74-2 | Di-n-butylphthalate | 31000. | U |
| 206-44-0 | Fluoranthene | 31000. | U |
| 129-00-0 | Pyrene | 31000. | U |
| 85-68-7 | Butylbenzylphthalate | 31000. | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 61000. | U |
| 56-55-3 | Benzo(a)anthracene | 31000. | U |
| 218-01-9 | Chrysene | 31000. | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 22000. | J |
| 117-84-0 | Di-n-octylphthalate | 14000. | J |
| 205-99-2 | Benzo(b)fluoranthene | 31000. | U |
| 207-08-9 | Benzo(k)fluoranthene | 31000. | U |
| 50-32-8 | Benzo(a)pyrene | 31000. | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 31000. | U |
| 53-70-3 | Dibenz(a,h)anthracene | 31000. | U |
| 191-24-2 | Benzo(g,h,i)perylene | 31000. | U |

(1) - Cannot be separated from diphenylamine

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: JE701

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 1.0 (g/mL) G  Lab File ID: F0186

Level: (low/med) MED  Date Received: 3/29/89

% Moisture: not dec. 35. dec. 35.  Date Extracted: 4/ 6/89

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 4/14/89

GPC Cleanup: (Y/N) N  pH: 8.4  Dilution Factor: 1.00

Number TICs found: 20  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | - - | UNKNOWN HYDROCARBON | 6.92 | 300000. | J |
| 2. | 98-82-8 | Benzene, (1-methylethyl)- (9 | 8.31 | 200000. | J |
| 3. | - - | UNKNOWN HYDROCARBON | 8.57 | 300000. | J |
| 4. | 526-73-8 | Benzene, 1,2,3-trimethyl- (8 | 9.00 | 300000. | J |
| 5. | - - | UNKNOWN HYDROCARBON | 9.21 | 700000. | J |
| 6. | 611-14-3 | Benzene, 1-ethyl-2-methyl- ( | 9.59 | 400000. | J |
| 7. | 17302-28-2 | Nonane, 2,6-dimethyl- (8CI9C | 9.67 | 500000. | J |
| 8. | - - | UNKNOWN HYDROCARBON | 10.22 | 800000. | J |
| 9. | - - | UNKNOWN HYDROCARBON | 10.33 | 300000. | J |
| 10. | - - | UNKNOWN HYDROCARBON | 10.40 | 300000. | J |
| 11. | - - | UNKNOWN HYDROCARBON | 10.47 | 300000. | J |
| 12. | - - | UNKNOWN HYDROCARBON | 10.59 | 300000. | J |
| 13. | 1120-21-4 | Undecane (8CI9CI) | 11.17 | 500000. | J |
| 14. | 89-82-7 | Pulegone | 11.29 | 100000. | J |
| 15. | - - | UNKNOWN | 11.42 | 90000. | J |
| 16. | 527-53-7 | Benzene, 1,2,3,5-tetramethyl | 11.46 | 90000. | J |
| 17. | - - | UNKNOWN HYDROCARBON | 11.71 | 200000. | J |
| 18. | 767-58-8 | 1H-Indene, 2,3-dihydro-1-met | 11.95 | 100000. | J |
| 19. | - - | UNKNOWN HYDROCARBON | 12.13 | 90000. | J |
| 20. | - - | UNKNOWN HYDROCARBON | 12.79 | 300000. | J |
| 21. | | | | | |
| 22. | | | | | |
| 23. | | | | | |
| 24. | | | | | |
| 25. | | | | | |
| 26. | | | | | |
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1D

# PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE701

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 30. (g/mL) G  Lab File ID: D0981

Level: (low/med) LOW  Date Received: 3/29/89

% Moisture: not dec. 35.  dec. 35.  Date Extracted: 4/ 6/89

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N  pH: 8.4  Dilution Factor: 50.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 610. | UR |
| 319-85-7 | beta-BHC | 610. | UR |
| 319-86-8 | delta-BHC | 610. | UR |
| 58-89-9 | gamma-BHC (Lindane) | 610. | UR |
| 76-44-8 | Heptachlor | 610. | UR |
| 309-00-2 | Aldrin | 610. | UR |
| 1024-57-3 | Heptachlor epoxide | 610. | UR |
| 959-98-8 | Endosulfan I | 610. | UR |
| 60-57-1 | Dieldrin | 1200. | UR |
| 72-55-9 | 4,4'-DDE | 1200. | UR |
| 72-20-8 | Endrin | 1200. | UR |
| 33213-65-9 | Endosulfan II | 1200. | UR |
| 72-54-8 | 4,4'-DDD | 1200. | UR |
| 1031-07-8 | Endosulfan sulfate | 1200. | UR |
| 50-29-3 | 4,4'-DDT | 1200. | UR |
| 72-43-5 | Methoxychlor | 6100. | UR |
| 53494-70-5 | Endrin ketone | 1200. | UR |
| 5103-71-9 | alpha-Chlordane | 6100. | UR |
| 5103-74-2 | gamma-Chlordane | 6100. | UR |
| 8001-35-2 | Toxaphene | 12000. | UR |
| 12674-11-2 | Aroclor-1016 | 6100. | UR |
| 11104-28-2 | Aroclor-1221 | 6100. | UR |
| 11141-16-5 | Aroclor-1232 | 6100. | UR |
| 53469-21-9 | Aroclor-1242 | 6100. | UR |
| 12672-29-6 | Aroclor-1248 | 6100. | UR |
| 11097-69-1 | Aroclor-1254 | 12000. | UR |
| 11096-82-5 | Aroclor-1260 | 12000. | UR |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE702

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 5.0 (g/mL) ML  Lab File ID: A1213

Level: (low/med) LOW  Date Received: 3/29/89

% Moisture: not dec. 100.  Date Analyzed: 3/30/89

Column: (pack/cap) PACK  Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10. | U |
| 74-83-9 | Bromomethane | 10. | U |
| 75-01-4 | Vinyl Chloride | 10. | U |
| 75-00-3 | Chloroethane | 10. | U |
| 75-09-2 | Methylene Chloride | 5. | UJ |
| 67-64-1 | Acetone | 19. | J |
| 75-15-0 | Carbon Disulfide | 5. | U |
| 75-35-4 | 1,1-Dichloroethene | 5. | U |
| 75-34-3 | 1,1-Dichloroethane | 5. | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5. | U |
| 67-66-3 | Chloroform | 5. | U |
| 107-06-2 | 1,2-Dichloroethane | 5. | U |
| 78-93-3 | 2-Butanone | 10. | UJ |
| 71-55-6 | 1,1,1-Trichloroethane | 5. | UJ |
| 56-23-5 | Carbon Tetrachloride | 5. | U |
| 108-05-4 | Vinyl Acetate | 10. | U |
| 75-27-4 | Bromodichloromethane | 5. | U |
| 78-87-5 | 1,2-Dichloropropane | 5. | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5. | U |
| 79-01-6 | Trichloroethene | 5. | U |
| 124-48-1 | Dibromochloromethane | 5. | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5. | U |
| 71-43-2 | Benzene | 5. | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5. | U |
| 75-25-2 | Bromoform | 5. | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10. | U |
| 591-78-6 | 2-Hexanone | 10. | U |
| 127-18-4 | Tetrachloroethene | 5. | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5. | U |
| 108-88-3 | Toluene | 5. | U |
| 108-90-7 | Chlorobenzene | 5. | U |
| 100-41-4 | Ethylbenzene | 5. | U |
| 100-42-5 | Styrene | 5. | U |
| 1330-20-7 | Xylene (total) | 5. | U |

13 JUNE 19

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JE702

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1213

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. Date Analyzed: 3/30/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | - - | UNKNOWN HEXANE ISOMER | 21.65 | 5. | UJ |
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE702

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: F0177

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 3/31/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10. | U |
| 111-44-4 | bis(2-Chloroethyl)ether | 10. | U |
| 95-57-8 | 2-Chlorophenol | 10. | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10. | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10. | U |
| 100-51-6 | Benzyl alcohol | 10. | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10. | U |
| 95-48-7 | 2-Methylphenol | 10. | U |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 10. | U |
| 106-44-5 | 4-Methylphenol | 10. | U |
| 621-64-7 | N-Nitroso-di-n-propylamine | 10. | U |
| 67-72-1 | Hexachloroethane | 10. | U |
| 98-95-3 | Nitrobenzene | 10. | U |
| 78-59-1 | Isophorone | 10. | U |
| 88-75-5 | 2-Nitrophenol | 10. | U |
| 105-67-9 | 2,4-Dimethylphenol | 10. | U |
| 65-85-0 | Benzoic acid | 50. | UJ |
| 111-91-1 | bis(2-Chloroethoxy)methane | 10. | U |
| 120-83-2 | 2,4-Dichlorophenol | 10. | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10. | U |
| 91-20-3 | Naphthalene | 10. | U |
| 106-47-8 | 4-Chloroaniline | 10. | U |
| 87-68-3 | Hexachlorobutadiene | 10. | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 10. | U |
| 91-57-6 | 2-Methylnaphthalene | 10. | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10. | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10. | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50. | U |
| 91-58-7 | 2-Chloronaphthalene | 10. | U |
| 88-74-4 | 2-Nitroaniline | 50. | U |
| 131-11-3 | Dimethylphthalate | 10. | U |
| 208-96-8 | Acenaphthylene | 10. | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10. | U |

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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE702

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: F0177

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 3/31/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50. | U |
| 83-32-9 | Acenaphthene | 10. | U |
| 51-28-5 | 2,4-Dinitrophenol | 50. | U J |
| 100-02-7 | 4-Nitrophenol | 50. | U |
| 132-64-9 | Dibenzofuran | 10. | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10. | U |
| 84-66-2 | Diethylphthalate | 10. | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10. | U |
| 86-73-7 | Fluorene | 10. | U |
| 100-01-6 | 4-Nitroaniline | 50. | U |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 50. | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10. | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10. | U |
| 118-74-1 | Hexachlorobenzene | 10. | U |
| 87-86-5 | Pentachlorophenol | 50. | U |
| 85-01-8 | Phenanthrene | 10. | U |
| 120-12-7 | Anthracene | 10. | U |
| 84-74-2 | Di-n-butylphthalate | 10. | U J |
| 206-44-0 | Fluoranthene | 10. | U |
| 129-00-0 | Pyrene | 10. | U |
| 85-68-7 | Butylbenzylphthalate | 10. | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20. | U |
| 56-55-3 | Benzo(a)anthracene | 10. | U |
| 218-01-9 | Chrysene | 10. | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 10. | U |
| 117-84-0 | Di-n-octylphthalate | 10. | U |
| 205-99-2 | Benzo(b)fluoranthene | 10. | U |
| 207-08-9 | Benzo(k)fluoranthene | 10. | U |
| 50-32-8 | Benzo(a)pyrene | 10. | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 10. | U J J |
| 53-70-3 | Dibenz(a,h)anthracene | 10. | U J J |
| 191-24-2 | Benzo(g,h,i)perylene | 10. | U J |

(1) - Cannot be separated from diphenylamine

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JE702

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: F0177

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 3/31/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 0

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

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
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EPA SAMPLE NO.

JE702

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 1000. (g/mL)ML  Lab File ID: D0973

Level: (low/med) LOW  Date Received: 3/29/89

% Moisture: not dec.100. dec. 0.  Date Extracted: 4/ 3/89

Extraction: (SepF/Cont/Sonc) SEPF  Date Analyzed: 4/12/89

GPC Cleanup: (Y/N) N  pH: 7.0  Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | .050 | U |
| 319-85-7 | beta-BHC | .050 | U |
| 319-86-8 | delta-BHC | .050 | U |
| 58-89-9 | gamma-BHC (Lindane) | .050 | U |
| 76-44-8 | Heptachlor | .050 | U |
| 309-00-2 | Aldrin | .050 | U |
| 1024-57-3 | Heptachlor epoxide | .050 | U |
| 959-98-8 | Endosulfan I | .050 | U |
| 60-57-1 | Dieldrin | .10 | U |
| 72-55-9 | 4,4'-DDE | .10 | U |
| 72-20-8 | Endrin | .10 | U |
| 33213-65-9 | Endosulfan II | .10 | U |
| 72-54-8 | 4,4'-DDD | .10 | U |
| 1031-07-8 | Endosulfan sulfate | .10 | U |
| 50-29-3 | 4,4'-DDT | .10 | U |
| 72-43-5 | Methoxychlor | .50 | U |
| 53494-70-5 | Endrin ketone | .10 | U |
| 5103-71-9 | alpha-Chlordane | .50 | U |
| 5103-74-2 | gamma-Chlordane | .50 | U |
| 8001-35-2 | Toxaphene | 1.0 | U |
| 12674-11-2 | Aroclor-1016 | .50 | U |
| 11104-28-2 | Aroclor-1221 | .50 | U |
| 11141-16-5 | Aroclor-1232 | .50 | U |
| 53469-21-9 | Aroclor-1242 | .50 | U |
| 12672-29-6 | Aroclor-1248 | .50 | U |
| 11097-69-1 | Aroclor-1254 | 1.0 | U |
| 11096-82-5 | Aroclor-1260 | 1.0 | U |

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE703

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1214

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. Date Analyzed: 3/30/89

Column: (pack/cap) PACK Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10. | U |
| 74-83-9 | Bromomethane | 10. | U |
| 75-01-4 | Vinyl Chloride | 10. | U |
| 75-00-3 | Chloroethane | 10. | U |
| 75-09-2 | Methylene Chloride | 5. | UJ |
| 67-64-1 | Acetone | 7. | uJ |
| 75-15-0 | Carbon Disulfide | 5. | U |
| 75-35-4 | 1,1-Dichloroethene | 5. | U |
| 75-34-3 | 1,1-Dichloroethane | 5. | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5. | U |
| 67-66-3 | Chloroform | 5. | U |
| 107-06-2 | 1,2-Dichloroethane | 5. | U |
| 78-93-3 | 2-Butanone | 10. | UJ |
| 71-55-6 | 1,1,1-Trichloroethane | 5. | UJ |
| 56-23-5 | Carbon Tetrachloride | 5. | U |
| 108-05-4 | Vinyl Acetate | 10. | U |
| 75-27-4 | Bromodichloromethane | 5. | U |
| 78-87-5 | 1,2-Dichloropropane | 5. | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5. | U |
| 79-01-6 | Trichloroethene | 5. | U |
| 124-48-1 | Dibromochloromethane | 5. | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5. | U |
| 71-43-2 | Benzene | 5. | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5. | U |
| 75-25-2 | Bromoform | 5. | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10. | U |
| 591-78-6 | 2-Hexanone | 10. | U |
| 127-18-4 | Tetrachloroethene | 5. | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5. | U |
| 108-88-3 | Toluene | 5. | U |
| 108-90-7 | Chlorobenzene | 5. | U |
| 100-41-4 | Ethylbenzene | 5. | U |
| 100-42-5 | Styrene | 5. | U |
| 1330-20-7 | Xylene (total) | 5. | U |

1 June 19

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JE703

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 5.0 (g/mL) ML  Lab File ID: A1214

Level: (low/med) LOW  Date Received: 3/29/89

% Moisture: not dec. 100.  Date Analyzed: 3/30/89

Column: (pack/cap) PACK  Dilution Factor: 1.00

Number TICs found: 0  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
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| 1. | | | | | |
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE703

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: F0178

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 3/31/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10. | U |
| 111-44-4 | bis(2-Chloroethyl)ether | 10. | U |
| 95-57-8 | 2-Chlorophenol | 10. | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10. | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10. | U |
| 100-51-6 | Benzyl alcohol | 10. | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10. | U |
| 95-48-7 | 2-Methylphenol | 10. | U |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 10. | U |
| 106-44-5 | 4-Methylphenol | 10. | U |
| 621-64-7 | N-Nitroso-di-n-propylamine | 10. | U |
| 67-72-1 | Hexachloroethane | 10. | U |
| 98-95-3 | Nitrobenzene | 10. | U |
| 78-59-1 | Isophorone | 10. | U |
| 88-75-5 | 2-Nitrophenol | 10. | U |
| 105-67-9 | 2,4-Dimethylphenol | 10. | U |
| 65-85-0 | Benzoic acid | 50. | UJ |
| 111-91-1 | bis(2-Chloroethoxy)methane | 10. | U |
| 120-83-2 | 2,4-Dichlorophenol | 10. | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10. | U |
| 91-20-3 | Naphthalene | 10. | U |
| 106-47-8 | 4-Chloroaniline | 10. | U |
| 87-68-3 | Hexachlorobutadiene | 10. | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 10. | U |
| 91-57-6 | 2-Methylnaphthalene | 10. | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10. | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10. | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50. | U |
| 91-58-7 | 2-Chloronaphthalene | 10. | U |
| 88-74-4 | 2-Nitroaniline | 50. | U |
| 131-11-3 | Dimethylphthalate | 10. | U |
| 208-96-8 | Acenaphthylene | 10. | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10. | U |

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1C

SEMIVOLAT( ) ORGANICS ANALYSIS DATA ( ET

EPA SAMPLE NO.

JE703

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: F0178

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 3/31 89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50. | U |
| 83-32-9 | Acenaphthene | 10. | U |
| 51-28-5 | 2,4-Dinitrophenol | 50. | U |
| 100-02-7 | 4-Nitrophenol | 50. | U |
| 132-64-9 | Dibenzofuran | 10. | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10. | UJ |
| 84-66-2 | Diethylphthalate | 10. | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10. | U |
| 86-73-7 | Fluorene | 10. | U |
| 100-01-6 | 4-Nitroaniline | 50. | U |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 50. | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10. | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10. | U |
| 118-74-1 | Hexachlorobenzene | 10. | U |
| 87-86-5 | Pentachlorophenol | 50. | U |
| 85-01-8 | Phenanthrene | 10. | U |
| 120-12-7 | Anthracene | 10. | U |
| 84-74-2 | Di-n-butylphthalate | 10. | UJ |
| 206-44-0 | Fluoranthene | 10. | U |
| 129-00-0 | Pyrene | 10. | U |
| 85-68-7 | Butylbenzylphthalate | 10. | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20. | U |
| 56-55-3 | Benzo(a)anthracene | 10. | U |
| 218-01-9 | Chrysene | 10. | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 10. | U |
| 117-84-0 | Di-n-octylphthalate | 10. | U |
| 205-99-2 | Benzo(b)fluoranthene | 10. | U |
| 207-08-9 | Benzo(k)fluoranthene | 10. | U |
| 50-32-8 | Benzo(a)pyrene | 10. | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 10. | UJ |
| 53-70-3 | Dibenz(a,h)anthracene | 10. | UJ |
| 191-24-2 | Benzo(g,h,i)perylene | 10. | UJ |

(1) - Cannot be separated from diphenylamine

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JE703

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: F0178

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 3/31/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 0

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

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
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PESTIC( ORGANICS ANALYSIS DATA S ET

EPA SAMPLE NO.

JE703

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000. (g/mL)ML Lab File ID: D0976

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec.100. dec. 0. Date Extracted: 4/ 3/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/12/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | .050 | U |
| 319-85-7 | beta-BHC | .050 | U |
| 319-86-8 | delta-BHC | .050 | U |
| 58-89-9 | gamma-BHC (Lindane) | .050 | U |
| 76-44-8 | Heptachlor | .050 | U |
| 309-00-2 | Aldrin | .050 | U |
| 1024-57-3 | Heptachlor epoxide | .050 | U |
| 959-98-8 | Endosulfan I | .050 | U |
| 60-57-1 | Dieldrin | .10 | U |
| 72-55-9 | 4,4'-DDE | .10 | U |
| 72-20-8 | Endrin | .10 | U |
| 33213-65-9 | Endosulfan II | .10 | U |
| 72-54-8 | 4,4'-DDD | .10 | U |
| 1031-07-8 | Endosulfan sulfate | .10 | U |
| 50-29-3 | 4,4'-DDT | .10 | U |
| 72-43-5 | Methoxychlor | .50 | U |
| 53494-70-5 | Endrin ketone | .10 | U |
| 5103-71-9 | alpha-Chlordane | .50 | U |
| 5103-74-2 | gamma-Chlordane | .50 | U |
| 8001-35-2 | Toxaphene | 1.0 | U |
| 12674-11-2 | Aroclor-1016 | .50 | U |
| 11104-28-2 | Aroclor-1221 | .50 | U |
| 11141-16-5 | Aroclor-1232 | .50 | U |
| 53469-21-9 | Aroclor-1242 | .50 | U |
| 12672-29-6 | Aroclor-1248 | .50 | U |
| 11097-69-1 | Aroclor-1254 | 1.0 | U |
| 11096-82-5 | Aroclor-1260 | 1.0 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE704

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 5.0 (g/mL) ML  Lab File ID: A1215

Level: (low/med) LOW  Date Received: 3/29/89

% Moisture: not dec. 100.  Date Analyzed: 3/30/89

Column: (pack/cap) PACK  Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10. | U |
| 74-83-9 | Bromomethane | 10. | U |
| 75-01-4 | Vinyl Chloride | 10. | U |
| 75-00-3 | Chloroethane | 10. | U |
| 75-09-2 | Methylene Chloride | 7. | UJ |
| 67-64-1 | Acetone | 12. | UJ |
| 75-15-0 | Carbon Disulfide | 5. | U |
| 75-35-4 | 1,1-Dichloroethene | 5. | U |
| 75-34-3 | 1,1-Dichloroethane | 5. | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5. | U |
| 67-66-3 | Chloroform | 5. | U |
| 107-06-2 | 1,2-Dichloroethane | 5. | U |
| 78-93-3 | 2-Butanone | 10. | UJ |
| 71-55-6 | 1,1,1-Trichloroethane | 5. | UJ |
| 56-23-5 | Carbon Tetrachloride | 5. | U |
| 108-05-4 | Vinyl Acetate | 10. | U |
| 75-27-4 | Bromodichloromethane | 5. | U |
| 78-87-5 | 1,2-Dichloropropane | 5. | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5. | U |
| 79-01-6 | Trichloroethene | 5. | U |
| 124-48-1 | Dibromochloromethane | 5. | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5. | U |
| 71-43-2 | Benzene | 5. | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5. | U |
| 75-25-2 | Bromoform | 5. | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10. | U |
| 591-78-6 | 2-Hexanone | 10. | U |
| 127-18-4 | Tetrachloroethene | 5. | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5. | U |
| 108-88-3 | Toluene | 5. | U |
| 108-90-7 | Chlorobenzene | 5. | U |
| 100-41-4 | Ethylbenzene | 5. | U |
| 100-42-5 | Styrene | 5. | U |
| 1330-20-7 | Xylene (total) | 5. | U |

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# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JE704

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1215

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. Date Analyzed: 3/30/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | - - | UNKNOWN HEXANE ISOMER | 21.63 | 8. | JB |
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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE704

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: F0179

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 3/31/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10. | U |
| 111-44-4 | bis(2-Chloroethyl)ether | 10. | U |
| 95-57-8 | 2-Chlorophenol | 10. | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10. | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10. | U |
| 100-51-6 | Benzyl alcohol | 10. | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10. | U |
| 95-48-7 | 2-Methylphenol | 10. | U |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 10. | U |
| 106-44-5 | 4-Methylphenol | 10. | U |
| 621-64-7 | N-Nitroso-di-n-propylamine | 10. | U |
| 67-72-1 | Hexachloroethane | 10. | U |
| 98-95-3 | Nitrobenzene | 10. | U |
| 78-59-1 | Isophorone | 10. | U |
| 88-75-5 | 2-Nitrophenol | 10. | U |
| 105-67-9 | 2,4-Dimethylphenol | 10. | U |
| 65-85-0 | Benzoic acid | 50. | UJ |
| 111-91-1 | bis(2-Chloroethoxy)methane | 10. | U |
| 120-83-2 | 2,4-Dichlorophenol | 10. | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10. | U |
| 91-20-3 | Naphthalene | 10. | U |
| 106-47-8 | 4-Chloroaniline | 10. | U |
| 87-68-3 | Hexachlorobutadiene | 10. | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 10. | U |
| 91-57-6 | 2-Methylnaphthalene | 10. | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10. | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10. | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50. | U |
| 91-58-7 | 2-Chloronaphthalene | 10. | U |
| 88-74-4 | 2-Nitroaniline | 50. | U |
| 131-11-3 | Dimethylphthalate | 10. | U |
| 208-96-8 | Acenaphthylene | 10. | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10. | U |

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SEMIVOLATI( ORGANICS ANALYSIS DATA S( :T

EPA SAMPLE NO.

JE704

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML  Lab File ID: F0179

Level: (low/med) LOW  Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0.  Date Extracted: 3/31/89

Extraction: (SepF/Cont/Sonc) SEPF  Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N  pH: 7.0  Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50. | U |
| 83-32-9 | Acenaphthene | 10. | U |
| 51-28-5 | 2,4-Dinitrophenol | 50. | UJ |
| 100-02-7 | 4-Nitrophenol | 50. | U |
| 132-64-9 | Dibenzofuran | 10. | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10. | U |
| 84-66-2 | Diethylphthalate | 10. | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10. | U |
| 86-73-7 | Fluorene | 10. | U |
| 100-01-6 | 4-Nitroaniline | 50. | U |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 50. | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10. | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10. | U |
| 118-74-1 | Hexachlorobenzene | 10. | U |
| 87-86-5 | Pentachlorophenol | 50. | U |
| 85-01-8 | Phenanthrene | 10. | U |
| 120-12-7 | Anthracene | 10. | U |
| 84-74-2 | Di-n-butylphthalate | 10. | UJ |
| 206-44-0 | Fluoranthene | 10. | U |
| 129-00-0 | Pyrene | 10. | U |
| 85-68-7 | Butylbenzylphthalate | 10. | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20. | U |
| 56-55-3 | Benzo(a)anthracene | 10. | U |
| 218-01-9 | Chrysene | 10. | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 10. | U |
| 117-84-0 | Di-n-octylphthalate | 10. | U |
| 205-99-2 | Benzo(b)fluoranthene | 10. | U |
| 207-08-9 | Benzo(k)fluoranthene | 10. | U |
| 50-32-8 | Benzo(a)pyrene | 10. | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 10. | UJ |
| 53-70-3 | Dibenz(a,h)anthracene | 10. | UJ |
| 191-24-2 | Benzo(g,h,i)perylene | 10. | UJ |

(1) - Cannot be separated from diphenylamine

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JE704

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: F0179

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 3/31/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 0

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

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
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| 1. | | | | | |
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# PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE704

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 1000. (g/mL)ML  Lab File ID: D0978

Level: (low/med) LOW  Date Received: 3/29/89

% Moisture: not dec.100. dec. 0.  Date Extracted: 4/ 3/89

Extraction: (SepF/Cont/Sonc) SEPF  Date Analyzed: 4/12/89

GPC Cleanup: (Y/N) N  pH: 7.0  Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | .050 | U |
| 319-85-7 | beta-BHC | .050 | U |
| 319-86-8 | delta-BHC | .050 | U |
| 58-89-9 | gamma-BHC (Lindane) | .050 | U |
| 76-44-8 | Heptachlor | .050 | U |
| 309-00-2 | Aldrin | .050 | U |
| 1024-57-3 | Heptachlor epoxide | .050 | U |
| 959-98-8 | Endosulfan I | .050 | U |
| 60-57-1 | Dieldrin | .10 | U |
| 72-55-9 | 4,4'-DDE | .10 | U |
| 72-20-8 | Endrin | .10 | U |
| 33213-65-9 | Endosulfan II | .10 | U |
| 72-54-8 | 4,4'-DDD | .10 | U |
| 1031-07-8 | Endosulfan sulfate | .10 | U |
| 50-29-3 | 4,4'-DDT | .10 | U |
| 72-43-5 | Methoxychlor | .50 | U |
| 53494-70-5 | Endrin ketone | .10 | U |
| 5103-71-9 | alpha-Chlordane | .50 | U |
| 5103-74-2 | gamma-Chlordane | .50 | U |
| 8001-35-2 | Toxaphene | 1.0 | U |
| 12674-11-2 | Aroclor-1016 | .50 | U |
| 11104-28-2 | Aroclor-1221 | .50 | U |
| 11141-16-5 | Aroclor-1232 | .50 | U |
| 53469-21-9 | Aroclor-1242 | .50 | U |
| 12672-29-6 | Aroclor-1248 | .50 | U |
| 11097-69-1 | Aroclor-1254 | 1.0 | U |
| 11096-82-5 | Aroclor-1260 | 1.0 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE705

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1216

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. Date Analyzed: 3/30/89

Column: (pack/cap) PACK Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 10. | U |
| 74-83-9 | Bromomethane | 10. | U |
| 75-01-4 | Vinyl Chloride | 10. | U |
| 75-00-3 | Chloroethane | 10. | U |
| 75-09-2 | Methylene Chloride | 7. | UJ |
| 67-64-1 | Acetone | 15. | UJ |
| 75-15-0 | Carbon Disulfide | 5. | U |
| 75-35-4 | 1,1-Dichloroethene | 5. | U |
| 75-34-3 | 1,1-Dichloroethane | 5. | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 5. | U |
| 67-66-3 | Chloroform | 5. | U |
| 107-06-2 | 1,2-Dichloroethane | 5. | U |
| 78-93-3 | 2-Butanone | 10. | UJ |
| 71-55-6 | 1,1,1-Trichloroethane | 5. | UJ |
| 56-23-5 | Carbon Tetrachloride | 5. | U |
| 108-05-4 | Vinyl Acetate | 10. | U |
| 75-27-4 | Bromodichloromethane | 5. | U |
| 78-87-5 | 1,2-Dichloropropane | 5. | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 5. | U |
| 79-01-6 | Trichloroethene | 5. | U |
| 124-48-1 | Dibromochloromethane | 5. | U |
| 79-00-5 | 1,1,2-Trichloroethane | 5. | U |
| 71-43-2 | Benzene | 5. | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 5. | U |
| 75-25-2 | Bromoform | 5. | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 10. | U |
| 591-78-6 | 2-Hexanone | 10. | U |
| 127-18-4 | Tetrachloroethene | 5. | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5. | U |
| 108-88-3 | Toluene | 5. | U |
| 108-90-7 | Chlorobenzene | 5. | U |
| 100-41-4 | Ethylbenzene | 5. | U |
| 100-42-5 | Styrene | 5. | U |
| 1330-20-7 | Xylene (total) | 5. | U |

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VOLATI ORGANICS ANALYSIS DATA S T

TENTA IVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JE705

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: A1216

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. Date Analyzed: 3/30/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 96-37-7 | Cyclopentane, methyl- (8CI,9C | 17.51 | 300. | J |
| 2. | 16747-32-3 | Pentane, 3-ethyl-2,2-dimethy | 19.60 | 30. | J |
| 3. | - - | UNKNOWN HEXANE ISOMER | 21.54 | 500. | UJ |
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE705

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: F0180

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 3/31/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N pH: 6.3 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 10. | U |
| 111-44-4 | bis(2-Chloroethyl)ether | 10. | U |
| 95-57-8 | 2-Chlorophenol | 10. | U |
| 541-73-1 | 1,3-Dichlorobenzene | 10. | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10. | U |
| 100-51-6 | Benzyl alcohol | 10. | U |
| 95-50-1 | 1,2-Dichlorobenzene | 10. | U |
| 95-48-7 | 2-Methylphenol | 10. | U |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 10. | U |
| 106-44-5 | 4-Methylphenol | 10. | U |
| 621-64-7 | N-Nitroso-di-n-propylamine | 10. | U |
| 67-72-1 | Hexachloroethane | 10. | U |
| 98-95-3 | Nitrobenzene | 10. | U |
| 78-59-1 | Isophorone | 10. | U |
| 88-75-5 | 2-Nitrophenol | 10. | U |
| 105-67-9 | 2,4-Dimethylphenol | 10. | U |
| 65-85-0 | Benzoic acid | 50. | UJ |
| 111-91-1 | bis(2-Chloroethoxy)methane | 10. | U |
| 120-83-2 | 2,4-Dichlorophenol | 10. | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10. | U |
| 91-20-3 | Naphthalene | 10. | U |
| 106-47-8 | 4-Chloroaniline | 10. | U |
| 87-68-3 | Hexachlorobutadiene | 10. | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 10. | U |
| 91-57-6 | 2-Methylnaphthalene | 10. | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10. | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10. | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 50. | U |
| 91-58-7 | 2-Chloronaphthalene | 10. | U |
| 88-74-4 | 2-Nitroaniline | 50. | U |
| 131-11-3 | Dimethylphthalate | 10. | U |
| 208-96-8 | Acenaphthylene | 10. | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10. | U |

15 June 1

1C

SEMIVOLAT( ) ORGANICS ANALYSIS DATA ( )ET

EPA SAMPLE NO.

JE705

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: F0180

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 3/31/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N pH: 6.3 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 50. | U |
| 83-32-9 | Acenaphthene | 10. | U |
| 51-28-5 | 2,4-Dinitrophenol | 50. | UJ |
| 100-02-7 | 4-Nitrophenol | 50. | U |
| 132-64-9 | Dibenzofuran | 10. | U |
| 121-14-2 | 2,4-Dinitrotoluene | 10. | U |
| 84-66-2 | Diethylphthalate | 10. | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 10. | U |
| 86-73-7 | Fluorene | 10. | U |
| 100-01-6 | 4-Nitroaniline | 50. | U |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 50. | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 10. | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10. | U |
| 118-74-1 | Hexachlorobenzene | 10. | U |
| 87-86-5 | Pentachlorophenol | 50. | U |
| 85-01-8 | Phenanthrene | 10. | U |
| 120-12-7 | Anthracene | 10. | U |
| 84-74-2 | Di-n-butylphthalate | 10. | UJ |
| 206-44-0 | Fluoranthene | 10. | U |
| 129-00-0 | Pyrene | 10. | U |
| 85-68-7 | Butylbenzylphthalate | 10. | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 20. | U |
| 56-55-3 | Benzo(a)anthracene | 10. | U |
| 218-01-9 | Chrysene | 10. | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 10. | U |
| 117-84-0 | Di-n-octylphthalate | 10. | U |
| 205-99-2 | Benzo(b)fluoranthene | 10. | U |
| 207-08-9 | Benzo(k)fluoranthene | 10. | U |
| 50-32-8 | Benzo(a)pyrene | 10. | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 10. | UJ |
| 53-70-3 | Dibenz(a,h)anthracene | 10. | UJ |
| 191-24-2 | Benzo(g,h,i)perylene | 10. | UJ |

(1) - Cannot be separated from diphenylamine

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JE705

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 1000.0 (g/mL) ML  Lab File ID: F0180

Level: (low/med) LOW  Date Received: 3/29/89

% Moisture: not dec. 100. dec. 0.  Date Extracted: 3/31/89

Extraction: (SepF/Cont/Sonc) SEPF  Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N  pH: 6.3  Dilution Factor: 1.00

Number TICs found: 0

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

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
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PESTICI( ORGANICS ANALYSIS DATA S( :T

EPA SAMPLE NO.

JE705

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1000. (g/mL)ML Lab File ID: D0979

Level: (low/med) LOW Date Received: 3/29/89

% Moisture: not dec.100. dec. 0. Date Extracted: 4/ 3/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N pH: 6.3 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | .050 | U |
| 319-85-7 | beta-BHC | .050 | U |
| 319-86-8 | delta-BHC | .050 | U |
| 58-89-9 | gamma-BHC (Lindane) | .050 | U |
| 76-44-8 | Heptachlor | .050 | U |
| 309-00-2 | Aldrin | .050 | U |
| 1024-57-3 | Heptachlor epoxide | .050 | U |
| 959-98-8 | Endosulfan I | .050 | U |
| 60-57-1 | Dieldrin | .10 | U |
| 72-55-9 | 4,4'-DDE | .10 | U |
| 72-20-8 | Endrin | .10 | U |
| 33213-65-9 | Endosulfan II | .10 | U |
| 72-54-8 | 4,4'-DDD | .10 | U |
| 1031-07-8 | Endosulfan sulfate | .10 | U |
| 50-29-3 | 4,4'-DDT | .10 | U |
| 72-43-5 | Methoxychlor | .50 | U |
| 53494-70-5 | Endrin ketone | .10 | U |
| 5103-71-9 | alpha-Chlordane | .50 | U |
| 5103-74-2 | gamma-Chlordane | .50 | U |
| 8001-35-2 | Toxaphene | 1.0 | U |
| 12674-11-2 | Aroclor-1016 | .50 | U |
| 11104-28-2 | Aroclor-1221 | .50 | U |
| 11141-16-5 | Aroclor-1232 | .50 | U |
| 53469-21-9 | Aroclor-1242 | .50 | U |
| 12672-29-6 | Aroclor-1248 | .50 | U |
| 11097-69-1 | Aroclor-1254 | 1.0 | U |
| 11096-82-5 | Aroclor-1260 | 1.0 | U |

I June

ecology and environment, inc.
101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537
International Specialists in the Environment

MEMORANDUM

DATE: July 28, 1989

FOR: Rhonda Wreggelsworth, RSCC, USEPA, Region X

THRU: Jeffrey Villnow, FIT-OM, E & E, Seattle

FROM: Mark Woodke, Chemist, E & E, Seattle
Tracy Yerian, Senior Chemist, E & E, Seattle

SUBJ: QA of Case 4695J (Inorganics)
Paxton Sales II

REF: F10-8904-007
PAN F10Z094QA

CC: John Osborn, PO, USEPA, Region X
Bruce Woods, ESD, USEPA, Region X
Gerald Muth, DPO, USEPA, Region X
Lou Bevilacqua, DPO, USEPA, Region II
Deborah Flood, HWD-SM, USEPA, Region X
Mary Bandrowski, FIT-PM, E & E, Seattle

The Quality Assurance review of four samples, Case 4695J, collected from Paxton Sales II, has been completed. Four water samples were analyzed at low level for TCL Inorganics by Chemtech Consulting Group of New York, New York. The samples were numbered:

| | |
|---|---|
| MJE728 | MJE730 |
| MJE729 | MJE731 |

Sample MJE729 underwent matrix spike analysis; sample MJE728 underwent duplicate analysis.

Data Qualifications

The following comments refer to the laboratory performance in meeting the Quality Control specifications outlined in IFB WA-87K025-027.

| Blank* | Element | Conc. µg/L | IDL µg/L | CRDL µg/L |
|---|---|---|---|---|
| ICB | Antimony | 38.7 | 38.0 | 60.0 |
| CCB1 | Manganese | 14.9 | 14.0 | 15.0 |
| CCB2 | Antimony | 49.7 | 38.0 | 60.0 |

* CCB = Continuing Calibration Blank; ICB = Initial Calibration Blank

Sample results below five times the highest analyte level reported in the blanks were flagged UJ (not detected, adjusted quantitation limit).

6) ICP Interference Check

All parameters for the Interference Check Sample were within the control limits of 80 to 120 percent of the true values.

7) Laboratory Control Sample

The recoveries for all parameters for both ICP and AA analysis were within the control limits required by IFB WA-87K025-027.

8) Duplicate Sample Analysis

The Relative Percent Difference values (RPD) for the duplicate sample analysis were within QC criteria of less than 20 percent for sample values greater than five times the CRDL. For all sample values less than five times the CRDL, the differences were within ± the CRDL for water matrix or ± two times the CRDL for soil matrix, except:

| Sample | Matrix | Element | Difference | QC Limits |
|---|---|---|---|---|
| MJE728D | Water | Copper | 63.6 | 25 |
| | | Lead | 8.5 | 5 |
| | | Manganese | 20.6 | 15 |
| | | Zinc | 22.7 | 20 |

Positive results for copper, lead, manganese, and zinc in sample MJE728 were flagged as estimated (J).

15) Laboratory Contact

The laboratory was contacted on 7/21/89 (see the attached Telephone Record log).

Data Use

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses" (R-582-5-5-01).

Upon consideration of the above comments, the data is ACCEPTABLE for use except where flagged with data qualifiers which modify the usefulness of individual values.

Additional data packages associated with this project are expected from CLP or EPA laboratories.

Data Qualifiers

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.

UJ - The material was analyzed for, but was not detected. The associated numerical value is an estimated sample quantitation limit.

R - Quality Control indicates that data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification.

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJE729

Lab Name: Chemtech Consulting Group  Contract: 68-W8-0061

Lab Code: CHEM  Case No.:  SAS No.: 4695J  SDG No.: MJE728

Matrix (soil/water): WATER  Lab Sample ID: 00223-02S

Level (low/med): LOW  Date Received: 06/10/89

% Solids: 0.0

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

| CAS No. | Analyte | Concentration | C |
|---|---|---|---|
| 7429-90-5 | Aluminum | 100.00 | U |
| 7440-36-0 | Antimony | 38.00 | UJ |
| 7440-38-2 | Arsenic | 3.80 | J |
| 7440-39-3 | Barium | 29.00 | U |
| 7440-41-7 | Beryllium | 4.00 | U |
| 7440-41-7 | Cadmium | 5.00 | U |
| 7440-70-2 | Calcium | 36800.00 | |
| 7440-47-3 | Chromium | 8.00 | U |
| 7440-48-4 | Cobalt | 12.00 | U |
| 7440-50-8 | Copper | 37.30 | |
| 7439-89-6 | Iron | 100.00 | U |
| 7439-92-1 | Lead | 4.40 | J |
| 7439-95-4 | Magnesium | 9280.00 | |
| 7439-96-5 | Manganese | 48.90 | UJ |
| 7439-97-6 | Mercury | 0.20 | U |
| 7440-02-0 | Nickel | 27.00 | U |
| 7440-09-7 | Potassium | 3900.00 | J |
| 7782-49-2 | Selenium | 2.00 | UJ |
| 7440-22-4 | Silver | 10.00 | UJ |
| 7440-23-5 | Sodium | 11000.00 | |
| 7440-28-0 | Thallium | 4.00 | U |
| 7440-62-2 | Vanadium | 24.30 | J |
| 7440-66-6 | Zinc | 234.00 | |
| | Cyanide | 10.00 | U |

Color Before: COLORLESS  Clarity Before: CLEAR  Texture:

Color After: COLORLESS  Clarity After: CLEAR  Artifacts:

Comments:





MN 7/27/89

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJE731

Lab Name: Chemtech Consulting Group  Contract: 68-W8-0061

Lab Code: CHEM  Case No.:  SAS No.: 4695J  SDG No.: MJE728

Matrix (soil/water): WATER  Lab Sample ID: 00223-04S

Level (low/med): LOW  Date Received: 06/10/89

% Solids: 0.0

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

| CAS No. | Analyte | Concentration | C | Q |
|---|---|---|---|---|
| 7429-90-5 | Aluminum | 100.00 | U | |
| 7440-36-0 | Antimony | 38.00 | U | |
| 7440-38-2 | Arsenic | 9.20 | | J |
| 7440-39-3 | Barium | 29.00 | U | |
| 7440-41-7 | Beryllium | 4.00 | U | |
| 7440-41-7 | Cadmium | 5.00 | U | |
| 7440-70-2 | Calcium | 7410.00 | | |
| 7440-47-3 | Chromium | 8.00 | U | |
| 7440-48-4 | Cobalt | 12.00 | U | |
| 7440-50-8 | Copper | 22.00 | U | |
| 7439-89-6 | Iron | 470.00 | | |
| 7439-92-1 | Lead | 2.00 | | J |
| 7439-95-4 | Magnesium | 1030.00 | | |
| 7439-96-5 | Manganese | 54.20 | | |
| 7439-97-6 | Mercury | 0.20 | U | |
| 7440-02-0 | Nickel | 27.00 | U | |
| 7440-09-7 | Potassium | 540.00 | U | |
| 7782-49-2 | Selenium | 2.00 | U | |
| 7440-22-4 | Silver | 10.00 | U | |
| 7440-23-5 | Sodium | 2540.00 | U | |
| 7440-28-0 | Thallium | 4.00 | U | |
| 7440-62-2 | Vanadium | 19.00 | U | |
| 7440-66-6 | Zinc | 17.00 | U | |
| | Cyanide | 10.00 | U | |

Color Before: COLORLESS  Clarity Before: CLEAR  Texture:

Color After: COLORLESS  Clarity After: CLEAR  Artifacts:

Comments:





7/27/89

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JE701

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: .004 (g/mL) G  Lab File ID: A1249

Level: (low/med) MED  Date Received: 3/29/89

% Moisture: not dec. 35.  Date Analyzed: 4/ 3/89

Column: (pack/cap) PACK  Dilution Factor: 1250.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 74-87-3 | Chloromethane | 19000. | U |
| 74-83-9 | Bromomethane | 19000. | U |
| 75-01-4 | Vinyl Chloride | 19000. | U |
| 75-00-3 | Chloroethane | 19000. | U |
| 75-09-2 | Methylene Chloride | 31000. | |
| 67-64-1 | Acetone | 35000. | |
| 75-15-0 | Carbon Disulfide | 9600. | U |
| 75-35-4 | 1,1-Dichloroethene | 9600. | U |
| 75-34-3 | 1,1-Dichloroethane | 9600. | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 9600. | U |
| 67-66-3 | Chloroform | 9600. | U |
| 107-06-2 | 1,2-Dichloroethane | 9600. | U |
| 78-93-3 | 2-Butanone | 19000. | U |
| 71-55-6 | 1,1,1-Trichloroethane | 9600. | U |
| 56-23-5 | Carbon Tetrachloride | 9600. | U |
| 108-05-4 | Vinyl Acetate | 19000. | U |
| 75-27-4 | Bromodichloromethane | 9600. | U |
| 78-87-5 | 1,2-Dichloropropane | 9600. | U |
| 10061-01-5 | cis-1,3-Dichloropropene | 9600. | U |
| 79-01-6 | Trichloroethene | 9600. | U |
| 124-48-1 | Dibromochloromethane | 9600. | U |
| 79-00-5 | 1,1,2-Trichloroethane | 9600. | U |
| 71-43-2 | Benzene | 9600. | U |
| 10061-02-6 | trans-1,3-Dichloropropene | 9600. | U |
| 75-25-2 | Bromoform | 9600. | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 19000. | U |
| 591-78-6 | 2-Hexanone | 19000. | U |
| 127-18-4 | Tetrachloroethene | 34000. | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 9600. | U |
| 108-88-3 | Toluene | 31000. | |
| 108-90-7 | Chlorobenzene | 9600. | U |
| 100-41-4 | Ethylbenzene | 8100. | J |
| 100-42-5 | Styrene | 9600. | U |
| 1330-20-7 | Xylene (total) | 94000. | |

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
JE701

Lab Name: ICM  Contract: 68-W8-0048

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 5.04 (g/mL) G  Lab File ID: A1249

Level: (low/med) MED  Date Received: 3/29/89

% Moisture: not dec. 35.  Date Analyzed: 4/ 3/89

Column: (pack/cap) PACK  Dilution Factor: 1250.00

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

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 563-80-4 | 2-Butanone, 3-methyl- (8CI,9CI | 18.31 | 8000. | J |
| 2. | - - | UNKNOWN HEXANE ISOMER | 21.72 | 20000. | J |
| 3. | - - | UNKNOWN | 29.10 | 30000. | J |
| 4. | 3868-64-2 | Pentalene, octahydro-2-methy | 29.45 | 200000. | J |
| 5. | 4926-78-7 | Cyclohexane, 1-ethyl-4-methy | 31.20 | 90000. | J |
| 6. | 6236-88-0 | Cyclohexane, 1-ethyl-4-methy | 32.21 | 10000. | J |
| 7. | 1678-92-8 | Cyclohexane, propyl- (8CI,9CI | 35.08 | 200000. | J |
| 8. | - - | UNKNOWN HYDROCARBON | 38.22 | 400000. | J |
| 9. | - - | UNKNOWN HYDROCARBON | 40.01 | 100000. | J |
| 10. | 98-82-8 | 1-methylethyl Benzene | 43.15 | 500000. | J |
| 11. | 611-14-3 | 1-ethyl-2-methyl Benzene | 44.82 | 300000. | J |
| 12. | - - | UNKNOWN HYDROCARBON | 47.62 | 80000. | J |
| 13. | - - | UNKNOWN | 53.05 | 200000. | J |
| 14. | - - | UNKNOWN HYDROCARBON | 56.25 | 100000. | J |
| 15. | 526-73-8 | 1,2,3-trimethyl Benzene | 58.02 | 100000. | J |
| 16. | - - | UNKNOWN | 61.32 | 60000. | J |
| 17. | 620-14-4 | Benzene, 1-ethyl-3-methyl- (8 | 65.04 | 700000. | J |
| 18. | 622-96-8 | 1-ethyl-4methyl Benzene | 68.77 | 200000. | J |
| 19. | 1678-98-4 | 2-methylpropyl Cyclohexane | 51.08 | 80000. | J |
| 20. | | | | | |
| 21. | | | | | |
| 22. | | | | | |
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| 24. | | | | | |
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| 29. | | | | | |
| 30. | | | | | |

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE701

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 1.0 (g/mL) G  Lab File ID: F0186

Level: (low/med) MED  Date Received: 3/29/89

% Moisture: not dec. 35. dec. 35.  Date Extracted: 4/ 6/89

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 4/14/89

GPC Cleanup: (Y/N) N  pH: 8.4  Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 31000. | U |
| 111-44-4 | bis(2-Chloroethyl)ether | 31000. | U |
| 95-57-8 | 2-Chlorophenol | 31000. | U |
| 541-73-1 | 1,3-Dichlorobenzene | 31000. | U |
| 106-46-7 | 1,4-Dichlorobenzene | 31000. | U |
| 100-51-6 | Benzyl alcohol | 31000. | U |
| 95-50-1 | 1,2-Dichlorobenzene | 31000. | U |
| 95-48-7 | 2-Methylphenol | 31000. | U |
| 108-60-1 | bis(2-Chloroisopropyl)ether | 31000. | U |
| 106-44-5 | 4-Methylphenol | 31000. | U |
| 621-64-7 | N-Nitroso-di-n-propylamine | 31000. | U |
| 67-72-1 | Hexachloroethane | 31000. | U |
| 98-95-3 | Nitrobenzene | 31000. | U |
| 78-59-1 | Isophorone | 31000. | U |
| 88-75-5 | 2-Nitrophenol | 31000. | U |
| 105-67-9 | 2,4-Dimethylphenol | 31000. | U |
| 65-85-0 | Benzoic acid | 150000. | U |
| 111-91-1 | bis(2-Chloroethoxy)methane | 31000. | U |
| 120-83-2 | 2,4-Dichlorophenol | 31000. | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 31000. | U |
| 91-20-3 | Naphthalene | 23000. | J |
| 106-47-8 | 4-Chloroaniline | 31000. | U |
| 87-68-3 | Hexachlorobutadiene | 31000. | U |
| 59-50-7 | 4-Chloro-3-methylphenol | 200000. | U |
| 91-57-6 | 2-Methylnaphthalene | 17000. | J |
| 77-47-4 | Hexachlorocyclopentadiene | 31000. | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 31000. | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 150000. | U |
| 91-58-7 | 2-Chloronaphthalene | 31000. | U |
| 88-74-4 | 2-Nitroaniline | 150000. | U |
| 131-11-3 | Dimethylphthalate | 31000. | U |
| 208-96-8 | Acenaphthylene | 31000. | U |
| 606-20-2 | 2,6-Dinitrotoluene | 31000. | U |

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE701

Lab Name: ICM Contract: 68-W8-0046

Lab Code: ICM Case No.: 11643 SAS No.: SDG No.: JE701

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

Sample wt/vol: 1.0 (g/mL) G Lab File ID: F0186

Level: (low/med) MED Date Received: 3/29/89

% Moisture: not dec. 35. dec. 35. Date Extracted: 4/ 6/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/14/89

GPC Cleanup: (Y/N) N pH: 8.4 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 150000. | U |
| 83-32-9 | Acenaphthene | 31000. | U |
| 51-28-5 | 2,4-Dinitrophenol | 150000. | U |
| 100-02-7 | 4-Nitrophenol | 150000. | U |
| 132-64-9 | Dibenzofuran | 31000. | U |
| 121-14-2 | 2,4-Dinitrotoluene | 31000. | U |
| 84-66-2 | Diethylphthalate | 31000. | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 31000. | U |
| 86-73-7 | Fluorene | 31000. | U |
| 100-01-6 | 4-Nitroaniline | 150000. | U |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 150000. | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 31000. | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 31000. | U |
| 118-74-1 | Hexachlorobenzene | 31000. | U |
| 87-86-5 | Pentachlorophenol | 150000. | U |
| 85-01-8 | Phenanthrene | 31000. | U |
| 120-12-7 | Anthracene | 31000. | U |
| 84-74-2 | Di-n-butylphthalate | 31000. | U |
| 206-44-0 | Fluoranthene | 31000. | U |
| 129-00-0 | Pyrene | 31000. | U |
| 85-68-7 | Butylbenzylphthalate | 31000. | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 61000. | U |
| 56-55-3 | Benzo(a)anthracene | 31000. | U |
| 218-01-9 | Chrysene | 31000. | U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 22000. | J |
| 117-84-0 | Di-n-octylphthalate | 14000. | J |
| 205-99-2 | Benzo(b)fluoranthene | 31000. | U |
| 207-08-9 | Benzo(k)fluoranthene | 31000. | U |
| 50-32-8 | Benzo(a)pyrene | 31000. | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 31000. | U |
| 53-70-3 | Dibenz(a,h)anthracene | 31000. | U |
| 191-24-2 | Benzo(g,h,i)perylene | 31000. | U |

(1) - Cannot be separated from diphenylamine

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: JE701

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 1.0 (g/mL) G  Lab File ID: F0186

Level: (low/med) MED  Date Received: 3/29/89

% Moisture: not dec. 35.  dec. 35.  Date Extracted: 4/ 6/89

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 4/14/89

GPC Cleanup: (Y/N) N  pH: 8.4  Dilution Factor: 1.00

Number TICs found: 20  CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | - - | UNKNOWN HYDROCARBON | 6.92 | 300000. | J |
| 2. | 98-82-8 | Benzene, (1-methylethyl)- (9 | 8.31 | 200000. | J |
| 3. | - - | UNKNOWN HYDROCARBON | 8.57 | 300000. | J |
| 4. | 526-73-8 | Benzene, 1,2,3-trimethyl- (8 | 9.00 | 300000. | J |
| 5. | - - | UNKNOWN HYDROCARBON | 9.21 | 700000. | J |
| 6. | 611-14-3 | Benzene, 1-ethyl-2-methyl- ( | 9.59 | 400000. | J |
| 7. | 17302-28-2 | Nonane, 2,6-dimethyl- (8CI9C | 9.67 | 500000. | J |
| 8. | - - | UNKNOWN HYDROCARBON | 10.22 | 800000. | J |
| 9. | - - | UNKNOWN HYDROCARBON | 10.33 | 300000. | J |
| 10. | - - | UNKNOWN HYDROCARBON | 10.40 | 300000. | J |
| 11. | - - | UNKNOWN HYDROCARBON | 10.47 | 300000. | J |
| 12. | - - | UNKNOWN HYDROCARBON | 10.59 | 300000. | J |
| 13. | 1120-21-4 | Undecane (8CI9CI) | 11.17 | 500000. | J |
| 14. | 89-82-7 | Pulegone | 11.29 | 100000. | J |
| 15. | - - | UNKNOWN | 11.42 | 90000. | J |
| 16. | 527-53-7 | Benzene, 1,2,3,5-tetramethyl | 11.46 | 90000. | J |
| 17. | - - | UNKNOWN HYDROCARBON | 11.71 | 200000. | J |
| 18. | 767-58-8 | 1H-Indene, 2,3-dihydro-1-met | 11.95 | 100000. | J |
| 19. | - - | UNKNOWN HYDROCARBON | 12.13 | 90000. | J |
| 20. | - - | UNKNOWN HYDROCARBON | 12.79 | 300000. | J |
| 21. | | | | | |
| 22. | | | | | |
| 23. | | | | | |
| 24. | | | | | |
| 25. | | | | | |
| 26. | | | | | |
| 27. | | | | | |
| 28. | | | | | |
| 29. | | | | | |
| 30. | | | | | |

1D

# PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JE701

Lab Name: ICM  Contract: 68-W8-0046

Lab Code: ICM  Case No.: 11643  SAS No.:  SDG No.: JE701

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

Sample wt/vol: 30. (g/mL) G  Lab File ID: D0981

Level: (low/med) LOW  Date Received: 3/29/89

% Moisture: not dec. 35.  dec. 35.  Date Extracted: 4/ 6/89

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) N  pH: 8.4  Dilution Factor: 50.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 610. | UR |
| 319-85-7 | beta-BHC | 610. | UR |
| 319-86-8 | delta-BHC | 610. | UR |
| 58-89-9 | gamma-BHC (Lindane) | 610. | UR |
| 76-44-8 | Heptachlor | 610. | UR |
| 309-00-2 | Aldrin | 610. | UR |
| 1024-57-3 | Heptachlor epoxide | 610. | UR |
| 959-98-8 | Endosulfan I | 610. | UR |
| 60-57-1 | Dieldrin | 1200. | UR |
| 72-55-9 | 4,4'-DDE | 1200. | UR |
| 72-20-8 | Endrin | 1200. | UR |
| 33213-65-9 | Endosulfan II | 1200. | UR |
| 72-54-8 | 4,4'-DDD | 1200. | UR |
| 1031-07-8 | Endosulfan sulfate | 1200. | UR |
| 50-29-3 | 4,4'-DDT | 1200. | UR |
| 72-43-5 | Methoxychlor | 6100. | UR |
| 53494-70-5 | Endrin ketone | 1200. | UR |
| 5103-71-9 | alpha-Chlordane | 6100. | UR |
| 5103-74-2 | gamma-Chlordane | 6100. | UR |
| 8001-35-2 | Toxaphene | 12000. | UR |
| 12674-11-2 | Aroclor-1016 | 6100. | UR |
| 11104-28-2 | Aroclor-1221 | 6100. | UR |
| 11141-16-5 | Aroclor-1232 | 6100. | UR |
| 53469-21-9 | Aroclor-1242 | 6100. | UR |
| 12672-29-6 | Aroclor-1248 | 6100. | UR |
| 11097-69-1 | Aroclor-1254 | 12000. | UR |
| 11096-82-5 | Aroclor-1260 | 12000. | UR |

ecology and environment, inc.
101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537
International Specialists in the Environment

MEMORANDUM

DATE: May 30, 1989

FOR: Rhonda Wreggelsworth, RSCC, USEPA, Region X

THRU: Jeffrey Villnow, FIT-OM, E & E, Seattle

FROM: Mark Woodke, Chemist, E & E, Seattle
Tracy Yerian, Senior Chemist, E & E, Seattle

SUBJ: QA of Case 11643 (Inorganics)
Paxton Sales

REF: F10-8904-007
PAN F10Z094QA

CC: John Osborn, PO, USEPA, Region X
Bruce Woods, ESD, USEPA, Region X
Gerald Muth, DPO, USEPA, Region X Laboratory, Manchester
Deborah Flood, HWD-SM, USEPA, Region X
John J. Roland, FIT-PM, E & E, Seattle

The Quality Assurance review of five samples, Case 11643, collected from Paxton Sales, has been completed. Four water samples and one soil sample were analyzed at low level for TCL Inorganics and cyanide by Laucks Testing Laboratories of Seattle, Washington. The samples were numbered:

| | | |
|---|---|---|
| MJE788 (soil) | MJE790 (water) | MJE792 (water) |
| MJE789 (water) | MJE791 (water) | |

Samples MJE788, MJE789, and MJE790 underwent matrix spike analysis (sample MJE790 underwent matrix spike analysis for cyanide only); samples MJE788 and MJE789 underwent duplicate analysis.

Data Qualifications

The following comments refer to the laboratory performance in meeting the Quality Control specifications outlined in IFB WA-87K025-027.

1) Timeliness

| Sample Number | Sample Date | Rec'd Date | ICP Anal. | AA* Anal. | CN Anal. | Hg Anal. |
|---|---|---|---|---|---|---|
| MJE788 | 03/27/89 | 03/29/89 | 04/17/89 | 04/29/89 | 04/12/89 | 04/06/89 |
| MJE789 | 03/27/89 | 03/29/89 | 04/17/89 | 04/29/89 | 04/12/89 | 04/06/89 |
| MJE790 | 03/27/89 | 03/29/89 | 04/17/89 | 04/29/89 | 04/12/89 | 04/06/89 |
| MJE791 | 03/27/89 | 03/29/89 | 04/17/89 | 04/29/89 | 04/12/89 | 04/06/89 |
| MJE792 | 03/27/89 | 03/29/89 | 04/17/89 | 04/29/89 | 04/12/89 | 04/06/89 |

* The date for AA Analysis was the date of the latest run.

All samples met QC holding time criteria, except:

| Sample No | Matrix | Date Sampled | Date Analyzed | Holding Time | Cyanide QC Limit |
|---|---|---|---|---|---|
| MJE788 | soil | 3/27/89 | 4/12/89 | 16 days | 14 days |
| MJE789 | water | 3/27/89 | 4/12/89 | 16 days | 14 days |
| MJE790 | water | 3/27/89 | 4/12/89 | 16 days | 14 days |
| MJE791 | water | 3/27/89 | 4/12/89 | 16 days | 14 days |
| MJE792 | water | 3/27/89 | 4/12/89 | 16 days | 14 days |

All cyanide results were flagged as estimated (J or UJ).

2) Initial Calibration

All ICP results fell within the control limits of 90 to 110 percent of the true values. Furnace and flame AA results fell within the control limits of 90 to 110 percent of the true values for all analytes. Mercury results fell within the control limits of 80 to 120 percent of the true value.

3) Continuing Calibration

All ICP results fell within the control limits of 90 to 110 percent of the true values. Furnace and flame AA results fell within the control limits of 90 to 110 percent of the true values for all analytes. Mercury results fell within the control limits of 80 to 120 percent of the true value.

4) Instrument Detection Limits

All Instrument Detection Limits (IDL) for ICP, AA, and mercury analyses were equal to or less than the Contract Required Detection Limits (CRDL).

5) Blanks

The following blanks contained elemental contamination above the IDL but below CRDL:

| Blank* | Element | Conc. µg/L | IDL µg/L | CRDL µg/L |
|---|---|---|---|---|
| ICB | Potassium | 1018 | 727 | 5000 |
| CCB1 | Potassium | 1522 | 727 | 5000 |
| CCB2 | Antimony | 4.7 | 4.7 | 60 |
| CCB2 | Potassium | 1537 | 727 | 5000 |
| CCB3 | Antimony | 6.3 | 4.7 | 60 |
| CCB3 | Nickel | 15.1 | 14.9 | 40 |
| PB1 (water) | Beryllium | 0.7 | 0.7 | 5 |
| PB2 (soil) | Iron | 20 | 16.9 | -- |
| PB2 (soil) | Potassium | 930 | 727 | -- |

* CCB = Continuing Calibration Blank. PB = Preparation Blank.
ICB = Initial Calibration Blank.

Sample results below five times the highest analyte level reported in the blanks were flagged UJ (not detected, adjusted quantitation limit).

6) ICP Interference Check

All parameters for the Interference Check Sample were within the control limits of 80 to 120 percent of the true values.

7) Laboratory Control Sample

The Recoveries for all parameters for both ICP and AA analysis were within the control limits required by IFB WA-87K025-027.

8) Duplicate Sample Analysis

The Relative Percent Difference values (RPD) for the following elements exceeded QC limits:

| Sample | Matrix | Element | RPD | QC Limits |
|---|---|---|---|---|
| MJE788D | Soil | Mercury | 39.5 | 35 |

The mercury result for sample MJE788 was flagged as estimated (J).

9) Spiked Sample Analysis

The Matrix spike recoveries for the following elements were outside QC limits:

| Sample | Matrix | Element | % Recovery | QC Limits |
|---|---|---|---|---|
| MJE788S | Soil | Antimony | 43.7 | 75-125 |
| | | Arsenic | 0 | 75-125 |
| | | Beryllium | 69.9 | 75-125 |
| | | Cobalt | 0 | 75-125 |
| | | Mercury | 72.8 | 75-125 |
| | | Selenium | 0 | 75-125 |
| MJE789S | Water | Selenium | 61.9 | 75-125 |

The antimony and beryllium results for sample MJE788 were flagged as estimated (J or UJ). The arsenic, cobalt, and mercury positive results for sample MJE788 were flagged as estimated (J). The selenium quantitation limit for sample MJE788 was flagged as unusable (R). The selenium quantitation limit for sample MJE789 was flagged as estimated (UJ).

10) ICP Serial Dilution

The Percent Difference values (%D) for the following elements exceeded QC limits:

| Sample | Matrix | Element | %D | QC Limits |
|---|---|---|---|---|
| MJE 788L | Soil | Lead | 12 | 10 |

The lead result for sample MJE788 was flagged as estimated (J).

11) Furnace AA

The following samples were run by the Method of Standard Additions for the indicated parameter(s) with correlation coefficients (r) outside of QC criteria:

| Sample | Matrix | Element | r | QC Criteria |
|---|---|---|---|---|
| MJE788 | Soil | Arsenic | 0.994 | 0.995 |
| MJE788D | Soil | Arsenic | 0.962 | 0.995 |
| MJE788S | Soil | Thallium | 0.978 | 0.995 |

The reported concentration for arsenic in sample MJE788 was flagged as estimated (J); no action was taken based on thallium results for the spiked sample MJE788S.

12) Mercury Analysis

All mercury analyses met QC criteria.

13) Cyanide Analysis

All cyanide analyses met QC criteria.

14) Sample Analysis

A CRDL sample was run.

Sample results reported that are below CRDL and above IDL are flagged as estimated (J).

15) Laboratory Contact

No laboratory contact was required.

Data Use

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses" (R-582-5-5-01).

Upon consideration of the above comments, the data is ACCEPTABLE for use except where flagged with data qualifiers which modify the usefulness of individual values.

Additional data packages associated with this project are expected from CLP or EPA laboratories.

Data Qualifiers

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.

UJ - The material was analyzed for, but was not detected. The associated numerical value is an estimated sample quantitation limit.

R - Quality Control indicates that data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification.

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

MJE788

Lab Name: LAUCKS TESTING LABS  Contract: 68-W8-0014

Lab Code: LAUCKS  Case No.: 11643  SAS No.:  SDG No.: MJE78

Matrix (soil/water): SOIL  Lab Sample ID: 15842-1

Level (low/med): LOW  Date Received: 03/28/89

% Solids: 78.2

51

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

| CAS No. | Analyte | Concentration | C |
|---|---|---|---|
| 7429-90-5 | Aluminum | 7440 | |
| 7440-36-0 | Antimony | 2.9 | W |
| 7440-38-2 | Arsenic | 23.3 | J |
| 7440-39-3 | Barium | 827000 | |
| 7440-41-7 | Beryllium | 0.13 | U |
| 7440-43-9 | Cadmium | 6.7 | |
| 7440-70-2 | Calcium | 4810 | |
| 7440-47-3 | Chromium | 169 | |
| 7440-48-4 | Cobalt | 113 | J |
| 7440-50-8 | Copper | 2160 | |
| 7439-89-6 | Iron | 115000 | |
| 7439-92-1 | Lead | 815 | J |
| 7439-95-4 | Magnesium | 2490 | |
| 7439-96-5 | Manganese | 1370 | |
| 7439-97-6 | Mercury | 0.30 | J |
| 7440-02-0 | Nickel | 125 | |
| 7440-09-7 | Potassium | 1010 | W |
| 7782-49-2 | Selenium | 1.4 | UR |
| 7440-22-4 | Silver | 0.67 | U |
| 7440-23-5 | Sodium | 1820 | |
| 7440-28-0 | Thallium | 0.21 | U |
| 7440-62-2 | Vanadium | 40.9 | |
| 7440-66-6 | Zinc | 2550 | |
| | Cyanide | 323 | J |
| | | | |

MR 5/24/89

Color Before: BLACK  Clarity Before:  Texture: COARSE

Color After: GREY  Clarity After:  Artifacts: YES

Comments:
ROOTS, LEAVES, WOODS, ROCKS, OIL.

U.S. EPA - CLP

EPA SAMPLE N

1

INORGANIC ANALYSIS DATA SHEET

MJE7(

Lab Name: LAUCKS TESTING LABS Contract: 68-W8-0014

Lab Code: LAUCKS Case No.: 11643 SAS No.: SDG No.: MJE7

Matrix (soil/water): WATER Lab Sample ID: 15842-1

Level (low/med): LOW Date Received: 03/29/89

% Solids: 0.0

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

| CAS No. | Analyte | Concentration | C |
|---|---|---|---|
| 7429-90-5 | Aluminum | 29.5 | U |
| 7440-36-0 | Antimony | 4.7 | UJ |
| 7440-38-2 | Arsenic | 3.4 | J |
| 7440-39-3 | Barium | 8.5 | U |
| 7440-41-7 | Beryllium | 0.70 | U |
| 7440-43-9 | Cadmium | 2.8 | U |
| 7440-70-2 | Calcium | 38800 | |
| 7440-47-3 | Chromium | 3.6 | U |
| 7440-48-4 | Cobalt | 13.4 | U |
| 7440-50-8 | Copper | 12.0 | U |
| 7439-89-6 | Iron | 16.9 | U |
| 7439-92-1 | Lead | 1.0 | U |
| 7439-95-4 | Magnesium | 9960 | |
| 7439-96-5 | Manganese | 2.5 | U |
| 7439-97-6 | Mercury | 0.20 | U |
| 7440-02-0 | Nickel | 14.9 | U |
| 7440-09-7 | Potassium | 3960 | UJ |
| 7782-49-2 | Selenium | 1.8 | U |
| 7440-22-4 | Silver | 3.7 | U |
| 7440-23-5 | Sodium | 11500 | |
| 7440-28-0 | Thallium | 1.2 | U |
| 7440-62-2 | Vanadium | 16.1 | U |
| 7440-66-6 | Zinc | 48.9 | |
| | Cyanide | 10.0 | U |
| | | | |

MW
5/24/89

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE NO

INORGANIC ANALYSIS DATA SHEET

MJE790

Lab Name: LAUCKS TESTING LABS  Contract: 68-W8-0014

Lab Code: LAUCKS  Case No.: 11643  SAS No.:  SDG No.: MJE7

Matrix (soil/water): WATER  Lab Sample ID: 15642-3

Level (low/med): LOW  Date Received: 03/29/89

% Solids: 0.0  BAUCHMAN WELL

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

DW1

| CAS No. | Analyte | Concentration | C |
|---|---|---|---|
| 7429-90-5 | Aluminum | 29.5 | U |
| 7440-36-0 | Antimony | 4.7 | UJ |
| 7440-38-2 | Arsenic | 3.1 | J |
| 7440-39-3 | Barium | 8.5 | U |
| 7440-41-7 | Beryllium | 0.70 | UJ |
| 7440-43-9 | Cadmium | 2.8 | U |
| 7440-70-2 | Calcium | 41100 | |
| 7440-47-3 | Chromium | 3.6 | U |
| 7440-48-4 | Cobalt | 13.4 | U |
| 7440-50-8 | Copper | 12.0 | U |
| 7439-89-6 | Iron | 18.6 | J |
| 7439-92-1 | Lead | 1.0 | U |
| 7439-95-4 | Magnesium | 10500 | |
| 7439-96-5 | Manganese | 2.5 | U |
| 7439-97-6 | Mercury | 0.20 | U |
| 7440-02-0 | Nickel | 14.9 | UJ |
| 7440-09-7 | Potassium | 4490 | UJ |
| 7782-49-2 | Selenium | 1.6 | U |
| 7440-22-4 | Silver | 3.7 | U |
| 7440-23-5 | Sodium | 12000 | |
| 7440-28-0 | Thallium | 1.2 | U |
| 7440-62-2 | Vanadium | 16.1 | U |
| 7440-66-6 | Zinc | 22.3 | |
| | Cyanide | 10.0 | UJ |
| | | | |

MW 5/24/89

Color Before: COLORLESS  Clarity Before: CLEAR  Texture:

Color After: COLORLESS  Clarity After: CLEAR  Artifacts:

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJE791

Lab Name: LAUCKS TESTING LABS  Contract: 68-W8-0014

Lab Code: LAUCKS  Case No.: 11843  SAS No.:  SDG No.: MJE78

Matrix (soil/water): WATER  Lab Sample ID: 15842-4

Level (low/med): LOW  Date Received: 03/29/89

% Solids: 0.0

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

| CAS No. | Analyte | Concentration | C |
|---|---|---|---|
| 7429-90-5 | Aluminum | 29.5 | U |
| 7440-36-0 | Antimony | 4.7 | U |
| 7440-38-2 | Arsenic | 5.5 | J |
| 7440-39-3 | Barium | 8.5 | U |
| 7440-41-7 | Beryllium | 0.70 | U |
| 7440-43-9 | Cadmium | 2.8 | U |
| 7440-70-2 | Calcium | 46600 | |
| 7440-47-3 | Chromium | 3.6 | U |
| 7440-48-4 | Cobalt | 13.4 | U |
| 7440-50-8 | Copper | 42.7 | |
| 7439-89-6 | Iron | 16.9 | U |
| 7439-92-1 | Lead | 1.0 | U |
| 7439-95-4 | Magnesium | 12900 | |
| 7439-96-5 | Manganese | 2.5 | U |
| 7439-97-6 | Mercury | 0.20 | U |
| 7440-02-0 | Nickel | 14.9 | U |
| 7440-09-7 | Potassium | 5180 | U |
| 7782-49-2 | Selenium | 1.6 | U |
| 7440-22-4 | Silver | 3.7 | U |
| 7440-23-5 | Sodium | 19800 | |
| 7440-28-0 | Thallium | 1.2 | U |
| 7440-62-2 | Vanadium | 16.1 | U |
| 7440-66-6 | Zinc | 62.4 | |
| | Cyanide | 12.2 | J |
| | | | |

MM 5/24/89

Color Before: COLORLESS  Clarity Before: CLEAR  Texture:

Color After: COLORLESS  Clarity After: CLEAR  Artifacts:

Comments:

U.S. EPA - CLP

EPA SAMPLE N

1

INORGANIC ANALYSIS DATA SHEET

MJE792

Lab Name: LAUCKS TESTING LABS  Contract: 68-W8-0014

Lab Code: LAUCKS  Case No.: 11643  SAS No.:  SDG No.: MJE7

Matrix (soil/water): WATER  Lab Sample ID: 15642-5

Level (low/med): LOW  Date Received: 03/29/89

% Solids: 0.0

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

| CAS No. | Analyte | Concentration | C |
|---|---|---|---|
| 7429-90-5 | Aluminum | 29.5 | U |
| 7440-36-0 | Antimony | 4.7 | U |
| 7440-38-2 | Arsenic | 1.9 | U |
| 7440-39-3 | Barium | 8.5 | U |
| 7440-41-7 | Beryllium | 0.70 | U |
| 7440-43-9 | Cadmium | 2.8 | U |
| 7440-70-2 | Calcium | 203 | U |
| 7440-47-3 | Chromium | 3.6 | U |
| 7440-48-4 | Cobalt | 13.4 | U |
| 7440-50-8 | Copper | 12.0 | U |
| 7439-89-6 | Iron | 19.8 | J |
| 7439-92-1 | Lead | 1.0 | U |
| 7439-95-4 | Magnesium | 207 | U |
| 7439-96-5 | Manganese | 2.5 | U |
| 7439-97-6 | Mercury | 0.20 | U |
| 7440-02-0 | Nickel | 14.9 | U |
| 7440-09-7 | Potassium | 727 | U |
| 7782-49-2 | Selenium | 1.6 | U |
| 7440-22-4 | Silver | 3.7 | U |
| 7440-23-5 | Sodium | 113 | J |
| 7440-28-0 | Thallium | 1.2 | U |
| 7440-62-2 | Vanadium | 16.1 | U |
| 7440-66-6 | Zinc | 15.3 | U |
|  | Cyanide | 17.0 | J |

MM 5/24/89

Color Before: COLORLESS  Clarity Before: CLEAR  Texture:

Color After: COLORLESS  Clarity After: CLEAR  Artifacts:

Comments:

ecology and environment, inc.
101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537
International Specialists in the Environment

MEMORANDUM

DATE: August 9, 1989

FOR: Rhonda Wreggelsworth, RSCC, USEPA, Region 10

THRU: Jeffrey Villnow, FIT-OM, E & E, Seattle

FROM: Tracy Yerian, Senior Chemist, E & E, Seattle

SUBJ: QA of Case 12098 (Organics)
Paxton Sales II

REF: F10-8904-007
PAN F10Z0940A

CC: John Osborn, PO, USEPA, Region 10
Bruce Woods, ESD, USEPA, Region 10
Gerald Muth, DPO, Region 10 Laboratory, Manchester
David Stockton, DPO, USEPA, Region 6
Deborah Flood, HWD-SM, USEPA, Region 10
John Roland, FIT-PD, E & E, Seattle
Mary Bandrowski, FIT-PM, E & E, Seattle

The Quality Assurance review of four samples, Case 12098, collected from Paxton Sales II has been completed. Four water samples were analyzed at low level for TCL Organics by Southwest Research Institute of San Antonio, Texas. The samples were numbered:

| | |
|---|---|
| JB802 | JB804 |
| JB803 | JB805 |

Sample JB802 underwent matrix spike (MS) and matrix spike duplicate (MSD) analysis.

## Data Qualifications

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in IFB WA-87K236-238, following Laboratory Data Validation Functional Guidelines for Evaluating Organics Analysis (February 1, 1988).

1) Timeliness

| Sample Number | Sample Date | Rec'd Date | VOA Anal. | BNA Ext. | BNA Anal. | Pest. Ext. | Pest. Anal. |
|---|---|---|---|---|---|---|---|
| JB802 | 06/09/89 | 06/10/89 | 06/17/89 | 06/12/89 | 06/23/89 | 06/13/89 | 06/23/89 |
| JB803 | 06/09/89 | 06/10/89 | 06/17/89 | 06/12/89 | 06/23/89 | 06/13/89 | 06/23/89 |
| JB804 | 06/09/89 | 06/10/89 | 06/17/89 | 06/12/89 | 06/23/89 | 06/13/89 | 06/23/89 |
| JB805 | 06/09/89 | 06/10/89 | 06/17/89 | 06/12/89 | 06/23/89 | 06/13/89 | 06/23/89 |

All samples met holding time criteria for volatiles, semivolatiles, and pesticides, except:

| Sample Number | Fraction | Sampling Date | Analysis Date | Time Elapsed | QC Criteria |
|---|---|---|---|---|---|
| JB802 | VOA | 06/09/89 | 06/17/89 | 8 days | 7 days |
| JB803 | VOA | 06/09/89 | 06/17/89 | 8 days | 7 days |
| JB804 | VOA | 06/09/89 | 06/17/89 | 8 days | 7 days |
| JB805 | VOA | 06/09/89 | 06/17/89 | 8 days | 7 days |

Data, by sample and fraction, were flagged "J" (estimated quantity) or "UJ" (not detected, estimated quantitation limit) as appropriate.

2) Instrument Tuning

All tuning check compound mass abundances and ratios were within contract required limits for volatile and semivolatile analysis.

3) Initial Calibration

All SPCC compounds were within contract required limits for the initial calibration with average Relative Response Factors (RRFs) above 0.05 for volatiles and semivolatiles. All CCC compounds were within contract required limits for the initial calibration with Percent Relative Standard Deviations (RSDs) below 30 percent.

All non-SPCC compounds had average RRFs of greater than or equal to 0.05 in the initial volatile or semivolatile calibration, except:

| Date | Fraction | Compound | RRF | Associated Samples |
|---|---|---|---|---|
| 06/05/89 | BNA | 3-Nitroaniline | 0.020 | None |
| | | 4-Nitroaniline | 0.052 | |
| | | 3,3-dichlorobenzidine | 0.040 | |

No action was taken based on initial calibration response factors.

All non-CCC compounds had percent RSDs less than or equal to 30 percent for the initial volatile or semivolatile calibration, except:

| Date | Fraction | Compound | RSD | Associated Samples |
|---|---|---|---|---|
| 06/05/89 | BNA | 3-Nitroaniline | 71.4 | All Samples |
| | | 2,4-Dinitrophenol | 41.5 | |
| | | 4-Nitroaniline | 44.4 | |
| 06/17/89 | VOA | Chlorometrane | 43.4 | All Samples |
| | | Vinyl Acetate | 45.8 | |

For samples associated with the corresponding calibration and TCL compounds listed above, positive results and sample quantitation limits were flagged as estimated quantities (J or UJ), as a high RSD is indicative of poor system linearity.

4) Continuing Calibrations

All SPCC compounds were at or above the contract required Relative Response Factor (RRF(50)) criteria of 0.05 for volatiles and semivolatiles. All CCC compounds were at or below the contract required Relative Percent Difference (RPD) limits of 25 percent for the volatile and semivolatile continuing calibrations.

All non-SPCC compounds had RRF(50)s of greater than or equal to 0.05 for continuing volatile and semivolatile calibrations, except:

| Date | Fraction | Compound | RRF(50) | Associated Samples |
|---|---|---|---|---|
| 06/23/89 | BNA | 4-Chloroaniline | 0.043 | All Samples |
| | | 3-Nitroaniline | 0.017 | |
| | | 3,3-Dichlorobenzidine | 0.026 | |

For samples associated with the corresponding calibration and TCL compounds listed above, each compound was flagged as an estimated quantity (J) for positive results. Quantitation limits were rejected for all compounds with RRF(50)s below 0.05.

All non-CCC compounds that were detected in the sample had percent difference (%D) values for the continuing calibration less than or equal to 25 percent.

5) Blanks

Frequency criteria was met for laboratory blank analysis.

The following compounds were detected in laboratory blanks at levels above Instrument Detection Limits (IDL), but below Contract Required Quantitiation Limits (CRQL) for TCL compounds:

| Blank ID | Fraction | Compound | Conc. | CRQL mg/kg | Associated Samples |
|---|---|---|---|---|---|
| VBLK1 | VOA | Acetone | 3 J | 10 U | All Samples |
| | | Benzene | 0.3 J | 5 U | |
| | | 4-Methyl-2-Pentanone | 1 J | 10 U | |
| | | 2-Hexanone | 2 J | 10 U | |

J - Estimated quantity
U - CRQL

Reported levels of the above compounds in the samples were flagged "UJ" (estimated quantitation limit) if the concentrations were below five times the concentrations found in the appropriate blank (10 times for common solvents).

No Tentatively Identified Compounds (TICs) were identified in the laboratory blanks.

6) Pesticide Standards

a) Linearity

The evaluation standards met the contract required limits of less than 10 percent RSD for linearity.

b) DDT Retention Time

The retention time for DDT on the primary and secondary GC column met or exceeded 12 minutes for the standard runs.

c) Retention Time Windows

The retention time windows met the contract specifications.

d) Analytical Sequence

The analytical sequence met the contract required frequency and order.

e) 4,4'-DDT/Endrin Degradation

The percent breakdown for Endrin and DDT met the contract limit of 20 percent for the individual or combined breakdown totals.

f) Dibutylchlorendate Retention Time Shift

The Percent Difference calculated for the retention time of dibutylchlorendate did not exceed 2 percent for the packed columns.

g) Standards Summary

All confirmation standards met %D criteria, except:

| Date | Compound | %D | QC Criteria |
|---|---|---|---|
| 06/23/89 | Endrin | 21.4 | 20 |
| | Heptachlor epoxide | 22.7 | 20 |
| | Endosulfan II | 22.6 | 20 |
| | Methoxychlor | 75.3 | 20 |

Endrin, heptachlor expoxide, endosulfan II, and methoxychlor were not detected in the samples; no action was taken based on %D values.

7) Surrogate Recovery

Recoveries (%R) for all surrogate compounds for volatile and semi-volatile analysis met QC criteria, except:

| Sample Number | Fraction | Compound | %R | QC Limits |
|---|---|---|---|---|
| JB804 | VOA | Toluene-d8 | 87 | 88 - 110 |
| JB804RE | VOA | Toluene-d8 | 83 | 88 - 110 |
| | | Bromofluorobenzene | 85 | 86 - 115 |
| DBLK0 | Pest/PCB | Dibutylchlorendate | 7 | 24 - 154 |

Volatile results for sample JB804 were flagged as estimated quantities (J or UJ).

No action was taken based on the very low surrogate recovery in the pesticide/PCB blank, as all samples had acceptable surrogate recovery.

All surrogate compounds met calibration QC criteria, except:

| Calibration Date | Fraction | Surrogate | %D | QC Limits |
|---|---|---|---|---|
| 06/23/89 | BNA | Phenol-d5 | 40.1 | 25.0 |
| | | 2-Fluorophenol | 31.2 | 25.0 |

No action was taken based on the surrogate calibration outliers.

8) Matrix Spike and Matrix Spike Duplicate

All MS and MSD Percent Recoveries (%Rs) met advisory QC guidelines, except:

| Sample Number | Fraction | Compound | %R | QC Limits |
|---|---|---|---|---|
| JB802 | BNA | N-Nitroso-di-n-propylamine | 122 | 41 - 116 |
| | | 1,2,4-Trichlorobenzene | 106 | 39 - 98 |
| | | 2,4-Dinitrotoluene | 105 | 24 - 96 |
| | | Pyrene | 137 | 26 - 127 |

Positive results for the base/neutral fraction of sample JB802 were flagged as estimated quantities (J).

All RPD values for the MS and MSD were within QC guidelines, except:

| Sample Number | Fraction | Compound | RPD | QC Limits |
|---|---|---|---|---|
| JB802 | BNA | 1,4-Dichlorobenzene | 35 | 28 |
| | | N-Nitroso-di-n-propylamine | 41 | 38 |

Positive results for the base/neutral fraction of sample JB802 were flagged as estimated quantities (J).

9) Internal Standard Recovery

All internal standard areas were within established QC limits.

10) Sample Analysis

All reported results above IDLs but below CRQLs were flagged as estimated quantities (J) on the Data Sheets.

The United States Environmental Protection Agency Contract Laboratory Statement Work for Organic Analysis, p. E-33 (Table 2.2), lists the analytes with their corresponding internal standard. Surrogate d5-nitrobenzene should have been quantitated using d8-naphthalene. Instead, the laboratory used d4-1,4-dichlorobenzene to quantitate d5-nitrobenzene. No action was taken based on the quantitation of surrogate d5-nitrobenzene.

11) Laboratory Contact

The laboratory was contacted on 7/24/89 (see attached Telephone Record Log).

Data Use

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses" (February 1, 1988).

Upon consideration of the data qualifications noted above, the data are ACCEPTABLE for use except where flagged with data qualifiers which modify the usefulness of the individual values.

This QA memorandum completes the series of QA reviews of CLP and/or EPA lab data for samples collected during the Site Inspection for Paxton Sales II.

Data Qualifiers

U - The material was analyzed for, but was not detected. The associated numerical value is a contractual quantitation limit, adjusted for sample weight/sample volume, extraction volume, percent solids and sample dilution.

J - The associated numerical value is an estimated quantity because quality control criteria were not met or concentrations reported were less than the CRQL.

UJ - The material was analyzed for, but was not detected. The associated numerical value is an estimated quantitation limit.

R - Quality Control indicates that data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification.

N - Presumptive evidence of presence of material (tentative identification).

M - Mass spectral criteria for positive identification were not met. However, in the opinion of the laboratory, the identification is correct based on the analyst's professional judgement.

X - The reported result may be a combination of indistinguishable isomers.

ORG/12098

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VOLATILE ORGANICS ANALYSIS DATA SHEET 1 0007
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
JB802

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB802

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E0617904

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. Date Analyzed: 6/17/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 1066-40-6 | SILANOL, TRIMETHYL- | 14.13 | 3. | J |
| 2. | | | | | |
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7/26

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 1 0006

J8802

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: J8802

Matrix: (soil/water) WATER Lab Sample ID: J8802

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E0617904

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. Date Analyzed: 6/17/89

Column: (pack/cap) PACK Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 74-87-3 | CHLOROMETHANE | 3. | J |
| 74-83-9 | BROMOMETHANE | 10. | U |
| 75-01-4 | VINYL CHLORIDE | 10. | U |
| 75-00-3 | CHLOROETHANE | 10. | U |
| 75-09-2 | METHYLENE CHLORIDE | 5. | U |
| 67-64-1 | ACETONE | 3. | J |
| 75-15-0 | CARBON DISULFIDE | 5. | U |
| 75-35-4 | 1,1-DICHLOROETHENE | 5. | U |
| 75-34-3 | 1,1-DICHLOROETHANE | 5. | U |
| 540-59-0 | 1,2-DICHLOROETHENE (TOTAL) | 5. | U |
| 67-66-3 | CHLOROFORM | 5. | U |
| 107-06-2 | 1,2-DICHLOROETHANE | 5. | U |
| 78-93-3 | 2-BUTANONE | 10. | U |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 5. | U |
| 56-23-5 | CARBON TETRACHLORIDE | 5. | U |
| 108-05-4 | VINYL ACETATE | 10. | U |
| 75-27-4 | BROMODICHLOROMETHANE | 5. | U |
| 78-87-5 | 1,2-DICHLOROPROPANE | 5. | U |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | 5. | U |
| 79-01-6 | TRICHLOROETHENE | 5. | U |
| 124-48-1 | DIBROMOCHLOROMETHANE | 5. | U |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | 5. | U |
| 71-43-2 | BENZENE | 5. | U |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | 5. | U |
| 75-25-2 | BROMOFORM | 5. | U |
| 108-10-1 | 4-METHYL-2-PENTANONE | 10. | U |
| 591-78-6 | 2-HEXANONE | 10. | U |
| 127-18-4 | TETRACHLOROETHENE | 5. | U |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | 5. | U |
| 108-88-3 | TOLUENE | 5. | U |
| 108-90-7 | CHLOROBENZENE | 5. | U |
| 100-41-4 | ETHYLBENZENE | 5. | U |
| 100-42-5 | STYRENE | 5. | U |
| 1330-20-7 | XYLENE (TOTAL) | 5. | U |



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7/20

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VOLA LE ORGANICS ANALYSIS DATA EET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

1 0023

JB803

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB803

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E0617901

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. Date Analyzed: 6/17/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 1066-40-6 | SILANOL, TRIMETHYL | 14.12 | 6. | J |
| 2. | - - | UNKNOWN HYDROCARBON | 26.02 | 2. | J |
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# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JB803

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB803

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E0617901

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. Date Analyzed: 6/17/89

Column: (pack/cap) PACK Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 74-87-3 | CHLOROMETHANE | 10. | U |
| 74-83-9 | BROMOMETHANE | 10. | U |
| 75-01-4 | VINYL CHLORIDE | 10. | U |
| 75-00-3 | CHLOROETHANE | 10. | U |
| 75-09-2 | METHYLENE CHLORIDE | 5. | U |
| 67-64-1 | ACETONE | 3. | J |
| 75-15-0 | CARBON DISULFIDE | 5. | U |
| 75-35-4 | 1,1-DICHLOROETHENE | 5. | U |
| 75-34-3 | 1,1-DICHLOROETHANE | 5. | U |
| 540-59-0 | 1,2-DICHLOROETHENE (TOTAL) | 5. | U |
| 67-66-3 | CHLOROFORM | 5. | U |
| 107-06-2 | 1,2-DICHLOROETHANE | 5. | U |
| 78-93-3 | 2-BUTANONE | 10. | U |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 5. | U |
| 56-23-5 | CARBON TETRACHLORIDE | 5. | U |
| 108-05-4 | VINYL ACETATE | 10. | U |
| 75-27-4 | BROMODICHLOROMETHANE | 5. | U |
| 78-87-5 | 1,2-DICHLOROPROPANE | 5. | U |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | 5. | U |
| 79-01-6 | TRICHLOROETHENE | 5. | U |
| 124-48-1 | DIBROMOCHLOROMETHANE | 5. | U |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | 5. | U |
| 71-43-2 | BENZENE | 5. | U |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | 5. | U |
| 75-25-2 | BROMOFORM | 5. | U |
| 108-10-1 | 4-METHYL-2-PENTANONE | 10. | U |
| 591-78-6 | 2-HEXANONE | 1. | J |
| 127-18-4 | TETRACHLOROETHENE | 5. | U |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | 5. | U |
| 108-88-3 | TOLUENE | 5. | U |
| 108-90-7 | CHLOROBENZENE | 5. | U |
| 100-41-4 | ETHYLBENZENE | 5. | U |
| 100-42-5 | STYRENE | 5. | U |
| 1330-20-7 | XYLENE (TOTAL) | 5. | U |



7/20

1 UU41 EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

J8804

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: J8802

Matrix: (soil/water) WATER Lab Samole ID: J8804

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E0617902

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. Date Analyzed: 6/17/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 1066-40-6 | SILANOL, TRIMETHYL- | 14.13 | 3. | J |
| 2. | | | | | |
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1 0040

EPA SAMPLE NO.

JB804

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB804

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E0617902

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. Date Analyzed: 6/17/89

Column: (pack/cap) PACK Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 74-87-3 | CHLOROMETHANE | 10. | U |
| 74-83-9 | BROMOMETHANE | 10. | U |
| 75-01-4 | VINYL CHLORIDE | 10. | U |
| 75-00-3 | CHLOROETHANE | 10. | U |
| 75-09-2 | METHYLENE CHLORIDE | 5. | U |
| 67-64-1 | ACETONE | 10. | U |
| 75-15-0 | CARBON DISULFIDE | 5. | U |
| 75-35-4 | 1,1-DICHLOROETHENE | 5. | U |
| 75-34-3 | 1,1-DICHLOROETHANE | 5. | U |
| 540-59-0 | 1,2-DICHLOROETHENE (TOTAL) | 5. | U |
| 67-66-3 | CHLOROFORM | 5. | U |
| 107-06-2 | 1,2-DICHLOROETHANE | 5. | U |
| 78-93-3 | 2-BUTANONE | 10. | U |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 5. | U |
| 56-23-5 | CARBON TETRACHLORIDE | 5. | U |
| 108-05-4 | VINYL ACETATE | 10. | U |
| 75-27-4 | BROMODICHLOROMETHANE | 5. | U |
| 78-87-5 | 1,2-DICHLOROPROPANE | 5. | U |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | 5. | U |
| 79-01-6 | TRICHLOROETHENE | 5. | U |
| 124-48-1 | DIBROMOCHLOROMETHANE | 5. | U |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | 5. | U |
| 71-43-2 | BENZENE | 5. | U |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | 5. | U |
| 75-25-2 | BROMOFORM | 5. | U |
| 108-10-1 | 4-METHYL-2-PENTANONE | 10. | U |
| 591-78-6 | 2-HEXANONE | 10. | U |
| 127-18-4 | TETRACHLOROETHENE | 5. | U |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | 5. | U |
| 108-88-3 | TOLUENE | 5. | U |
| 108-90-7 | CHLOROBENZENE | 5. | U |
| 100-41-4 | ETHYLBENZENE | 5. | U |
| 100-42-5 | STYRENE | 5. | U |
| 1330-20-7 | XYLENE (TOTAL) | 5. | U |



FORM I VOA 1/87 Rev.

IE 1 0053 EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUN

J8804 RE

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: J8802

Matrix: (soil/water) WATER Lab Sample ID: J8804RE

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E0617907

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. Date Analyzed: 6/17/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | - - | UNKNOWN HYDROCARBON | 3.67 | 30. | J |
| 2. | 372-09-8 | ACETIC ACID, CYANO- | 5.40 | 3. | J |
| 3. | 1066-40-6 | SILANOL, TRIMETHYL- | 14.13 | 6. | J |
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FORM I VOA-TIC 1/87 R

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# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JB804 RE

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB804RE

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E0617907

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. Date Analyzed: 6/17/89

Column: (pack/cap) PACK Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 74-87-3 | CHLOROMETHANE | 1. | J |
| 74-83-9 | BROMOMETHANE | 10. | U |
| 75-01-4 | VINYL CHLORIDE | 10. | U |
| 75-00-3 | CHLOROETHANE | 10. | U |
| 75-09-2 | METHYLENE CHLORIDE | 5. | U |
| 67-64-1 | ACETONE | 3. | J |
| 75-15-0 | CARBON DISULFIDE | 5. | U |
| 75-35-4 | 1,1-DICHLOROETHENE | 5. | U |
| 75-34-3 | 1,1-DICHLOROETHANE | 5. | U |
| 540-59-0 | 1,2-DICHLOROETHENE (TOTAL) | 5. | U |
| 67-66-3 | CHLOROFORM | 5. | U |
| 107-06-2 | 1,2-DICHLOROETHANE | 5. | U |
| 78-93-3 | 2-BUTANONE | 10. | U |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 5. | U |
| 56-23-5 | CARBON TETRACHLORIDE | 5. | U |
| 108-05-4 | VINYL ACETATE | 10. | U |
| 75-27-4 | BROMODICHLOROMETHANE | 5. | U |
| 78-87-5 | 1,2-DICHLOROPROPANE | 5. | U |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | 5. | U |
| 79-01-6 | TRICHLOROETHENE | 5. | U |
| 124-48-1 | DIBROMOCHLOROMETHANE | 5. | U |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | 5. | U |
| 71-43-2 | BENZENE | .2 | J |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | 5. | U |
| 75-25-2 | BROMOFORM | 5. | U |
| 108-10-1 | 4-METHYL-2-PENTANONE | 10. | U |
| 591-78-6 | 2-HEXANONE | 10. | U |
| 127-18-4 | TETRACHLOROETHENE | 5. | U |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | 5. | U |
| 108-88-3 | TOLUENE | 5. | U |
| 108-90-7 | CHLOROBENZENE | 5. | U |
| 100-41-4 | ETHYLBENZENE | 5. | U |
| 100-42-5 | STYRENE | 5. | U |
| 1330-20-7 | XYLENE (TOTAL) | 5. | U |



7/20

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VOLAT E ORGANICS ANALYSIS DATA ( EET

TENTATIVELY IDENTIFIED COMPOUNDS

1 0075 EPA SAMPLE NO.

J8805

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: J8802

Matrix: (soil/water) WATER Lab Samole ID: J8805

Samole wt/vol: 5.0 (g/mL) ML Lab File ID: E0617903

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. Date Analyzed: 6/17/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | 96-37-7 | CYCLOPENTANE, METHYL- | 14.43 | 8. | J |
| 2. | 564-02-3 | PENTANE, 2,2,3-TRIMETHYL- | 16.30 | .6 | J |
| 3. | 96-14-0 | PENTANE, 3-METHYL- | 18.20 | 6. | J |
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

J8805

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: J8802

Matrix: (soil/water) WATER Lab Sample ID: J8805

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E0617903

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. Date Analyzed: 6/17/89

Column: (pack/cap) PACK Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 74-87-3 | CHLOROMETHANE | 10. | U |
| 74-83-9 | BROMOMETHANE | 10. | U |
| 75-01-4 | VINYL CHLORIDE | 10. | U |
| 75-00-3 | CHLOROETHANE | 10. | U |
| 75-09-2 | METHYLENE CHLORIDE | .8 | J |
| 67-64-1 | ACETONE | 3. | BJ |
| 75-15-0 | CARBON DISULFIDE | 5. | U |
| 75-35-4 | 1,1-DICHLOROETHENE | 5. | U |
| 75-34-3 | 1,1-DICHLOROETHANE | 5. | U |
| 540-59-0 | 1,2-DICHLOROETHENE (TOTAL) | 5. | U |
| 67-66-3 | CHLOROFORM | 5. | U |
| 107-06-2 | 1,2-DICHLOROETHANE | 5. | U |
| 78-93-3 | 2-BUTANONE | 10. | U |
| 71-55-6 | 1,1,1-TRICHLOROETHANE | 5. | U |
| 56-23-5 | CARBON TETRACHLORIDE | 5. | U |
| 108-05-4 | VINYL ACETATE | 10. | U |
| 75-27-4 | BROMODICHLOROMETHANE | 5. | U |
| 78-87-5 | 1,2-DICHLOROPROPANE | 5. | U |
| 10061-01-5 | CIS-1,3-DICHLOROPROPENE | 5. | U |
| 79-01-6 | TRICHLOROETHENE | 5. | U |
| 124-48-1 | DIBROMOCHLOROMETHANE | 5. | U |
| 79-00-5 | 1,1,2-TRICHLOROETHANE | 5. | U |
| 71-43-2 | BENZENE | 5. | U |
| 10061-02-6 | TRANS-1,3-DICHLOROPROPENE | 5. | U |
| 75-25-2 | BROMOFORM | 5. | U |
| 108-10-1 | 4-METHYL-2-PENTANONE | 10. | U |
| 591-78-6 | 2-HEXANONE | 10. | U |
| 127-18-4 | TETRACHLOROETHENE | 5. | U |
| 79-34-5 | 1,1,2,2-TETRACHLOROETHANE | 5. | U |
| 108-88-3 | TOLUENE | .6 | J |
| 108-90-7 | CHLOROBENZENE | 5. | U |
| 100-41-4 | ETHYLBENZENE | 5. | U |
| 100-42-5 | STYRENE | 5. | U |
| 1330-20-7 | XYLENE (TOTAL) | 5. | U |



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1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

2 0008 EPA SAMPLE NO.

JB802

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB-802

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 40623902

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | PHENOL | 10. | U |
| 111-44-4 | BIS(2-CHLOROETHYL)ETHER | 10. | U |
| 95-57-8 | 2-CHLOROPHENOL | 10. | U |
| 541-73-1 | 1,3-DICHLOROBENZENE | 10. | U |
| 106-46-7 | 1,4-DICHLOROBENZENE | 10. | U |
| 100-51-6 | BENZYL ALCOHOL | 10. | U |
| 95-50-1 | 1,2-DICHLOROBENZENE | 10. | U |
| 95-48-7 | 2-METHYLPHENOL | 10. | U |
| 108-60-1 | BIS(2-CHLOROISOPROPYL)ETHER | 10. | U |
| 106-44-5 | 4-METHYLPHENOL | 10. | U |
| 621-64-7 | N-NITROSO-DI-N-PROPYLAMINE | 10. | U |
| 67-72-1 | HEXACHLOROETHANE | 10. | U |
| 98-95-3 | NITROBENZENE | 10. | U |
| 78-59-1 | ISOPHORONE | 10. | U |
| 88-75-5 | 2-NITROPHENOL | 10. | U |
| 105-67-9 | 2,4-DIMETHYLPHENOL | 10. | U |
| 65-85-0 | BENZOIC ACID | 50. | U |
| 111-91-1 | BIS(2-CHLOROETHOXY)METHANE | 10. | U |
| 120-83-2 | 2,4-DICHLOROPHENOL | 10. | U |
| 120-82-1 | 1,2,4-TRICHLOROBENZENE | 10. | U |
| 91-20-3 | NAPHTHALENE | 10. | U |
| 106-47-8 | 4-CHLOROANILINE | 10. | U R |
| 87-68-3 | HEXACHLOROBUTADIENE | 10. | U |
| 59-50-7 | 4-CHLORO-3-METHYLPHENOL | 10. | U |
| 91-57-6 | 2-METHYLNAPHTHALENE | 10. | U |
| 77-47-4 | HEXACHLOROCYCLOPENTADIENE | 10. | U |
| 88-06-2 | 2,4,6-TRICHLOROPHENOL | 10. | U |
| 95-95-4 | 2,4,5-TRICHLOROPHENOL | 50. | U |
| 91-58-7 | 2-CHLORONAPHTHALENE | 10. | U |
| 88-74-4 | 2-NITROANILINE | 50. | U |
| 131-11-3 | DIMETHYLPHTHALATE | 10. | U |
| 208-96-8 | ACENAPHTHYLENE | 10. | U |
| 606-20-2 | 2,6-DINITROTOLUENE | 10. | U |



JDH 7/12

2 0009

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JB802

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB-802

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 40623902

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-NITROANILINE | 50. | U R |
| 83-32-9 | ACENAPHTHENE | 10. | U |
| 51-28-5 | 2,4-DINITROPHENOL | 50. | U |
| 100-02-7 | 4-NITROPHENOL | 50. | U |
| 132-64-9 | DIBENZOFURAN | 10. | U |
| 121-14-2 | 2,4-DINITROTOLUENE | 10. | U |
| 84-66-2 | DIETHYLPHTHALATE | 10. | U |
| 7005-72-3 | 4-CHLOROPHENYL-PHENYLETHER | 10. | U |
| 86-73-7 | FLUORENE | 10. | U |
| 100-01-6 | 4-NITROANILINE | 50. | U J |
| 534-52-1 | 4,6-DINITRO-2-METHYLPHENOL | 50. | U |
| 86-30-6 | N-NITROSODIPHENYLAMINE (1) | 10. | U |
| 101-55-3 | 4-BROMOPHENYL-PHENYLETHER | 10. | U |
| 118-74-1 | HEXACHLOROBENZENE | 10. | U |
| 87-86-5 | PENTACHLOROPHENOL | 50. | U |
| 85-01-8 | PHENANTHRENE | 10. | U |
| 120-12-7 | ANTHRACENE | 10. | U |
| 84-74-2 | DI-N-BUTYLPHTHALATE | 10. | U |
| 206-44-0 | FLUORANTHENE | 10. | U |
| 129-00-0 | PYRENE | 10. | U |
| 85-68-7 | BUTYLBENZYLPHTHALATE | 10. | U |
| 91-94-1 | 3,3'-DICHLOROBENZIDINE | 20. | U R |
| 56-55-3 | BENZO(A)ANTHRACENE | 10. | U |
| 218-01-9 | CHRYSENE | 10. | U |
| 117-81-7 | BIS(2-ETHYLHEXYL)PHTHALATE | 10. | U |
| 117-84-0 | DI-N-OCTYLPHTHALATE | 10. | U |
| 205-99-2 | BENZO(B)FLUORANTHENE | 10. | U |
| 207-08-9 | BENZO(K)FLUORANTHENE | 10. | U |
| 50-32-8 | BENZO(A)PYRENE | 10. | U |
| 193-39-5 | INDENO(1,2,3-CD)PYRENE | 10. | U |
| 53-70-3 | DIBENZO(A,H)ANTHRACENE | 10. | U |
| 191-24-2 | BENZO(G,H,I)PERYLENE | 10. | U |

(1) - Cannot be separated from diphenylamine

2 0010

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

JB802

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB-802

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 40623902

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

Number TICs found: 0

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

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE N

JB803

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB-803

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 40623905

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | PHENOL | 10. | U |
| 111-44-4 | BIS(2-CHLOROETHYL)ETHER | 10. | U |
| 95-57-8 | 2-CHLOROPHENOL | 10. | U |
| 541-73-1 | 1,3-DICHLOROBENZENE | 10. | U |
| 106-46-7 | 1,4-DICHLOROBENZENE | 10. | U |
| 100-51-6 | BENZYL ALCOHOL | 10. | U |
| 95-50-1 | 1,2-DICHLOROBENZENE | 10. | U |
| 95-48-7 | 2-METHYLPHENOL | 10. | U |
| 108-60-1 | BIS(2-CHLOROISOPROPYL)ETHER | 10. | U |
| 106-44-5 | 4-METHYLPHENOL | 10. | U |
| 621-64-7 | N-NITROSO-DI-N-PROPYLAMINE | 10. | U |
| 67-72-1 | HEXACHLOROETHANE | 10. | U |
| 98-95-3 | NITROBENZENE | 10. | U |
| 78-59-1 | ISOPHORONE | 10. | U |
| 88-75-5 | 2-NITROPHENOL | 10. | U |
| 105-67-9 | 2,4-DIMETHYLPHENOL | 10. | U |
| 65-85-0 | BENZOIC ACID | 50. | U |
| 111-91-1 | BIS(2-CHLOROETHOXY)METHANE | 10. | U |
| 120-83-2 | 2,4-DICHLOROPHENOL | 10. | U |
| 120-82-1 | 1,2,4-TRICHLOROBENZENE | 10. | U |
| 91-20-3 | NAPHTHALENE | 10. | U |
| 106-47-8 | 4-CHLOROANILINE | 10. | U R |
| 87-68-3 | HEXACHLOROBUTADIENE | 10. | U |
| 59-50-7 | 4-CHLORO-3-METHYLPHENOL | 10. | U |
| 91-57-6 | 2-METHYLNAPHTHALENE | 10. | U |
| 77-47-4 | HEXACHLOROCYCLOPENTADIENE | 10. | U |
| 88-06-2 | 2,4,6-TRICHLOROPHENOL | 10. | U |
| 95-95-4 | 2,4,5-TRICHLOROPHENOL | 50. | U |
| 91-58-7 | 2-CHLORONAPHTHALENE | 10. | U |
| 88-74-4 | 2-NITROANILINE | 50. | U |
| 131-11-3 | DIMETHYLPHTHALATE | 10. | U |
| 208-96-8 | ACENAPHTHYLENE | 10. | U |
| 606-20-2 | 2,6-DINITROTOLUENE | 10. | U |

2 0018

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JB803

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB-803

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 40623905

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-NITROANILINE | 50. | U R |
| 83-32-9 | ACENAPHTHENE | 10. | U |
| 51-28-5 | 2,4-DINITROPHENOL | 50. | U |
| 100-02-7 | 4-NITROPHENOL | 50. | U |
| 132-64-9 | DIBENZOFURAN | 10. | U |
| 121-14-2 | 2,4-DINITROTOLUENE | 10. | U |
| 84-66-2 | DIETHYLPHTHALATE | 10. | U |
| 7005-72-3 | 4-CHLOROPHENYL-PHENYLETHER | 10. | U |
| 86-73-7 | FLUORENE | 10. | U |
| 100-01-6 | 4-NITROANILINE | 50. | U R |
| 534-52-1 | 4,6-DINITRO-2-METHYLPHENOL | 50. | U |
| 86-30-6 | N-NITROSODIPHENYLAMINE (1) | 10. | U |
| 101-55-3 | 4-BROMOPHENYL-PHENYLETHER | 10. | U |
| 118-74-1 | HEXACHLOROBENZENE | 10. | U |
| 87-86-5 | PENTACHLOROPHENOL | 50. | U |
| 85-01-8 | PHENANTHRENE | 10. | U |
| 120-12-7 | ANTHRACENE | 10. | U |
| 84-74-2 | DI-N-BUTYLPHTHALATE | 10. | U |
| 206-44-0 | FLUORANTHENE | 10. | U |
| 129-00-0 | PYRENE | 10. | U |
| 85-68-7 | BUTYLBENZYLPHTHALATE | 10. | U |
| 91-94-1 | 3,3'-DICHLOROBENZIDINE | 20. | U R |
| 56-55-3 | BENZO(A)ANTHRACENE | 10. | U |
| 218-01-9 | CHRYSENE | 10. | U |
| 117-81-7 | BIS(2-ETHYLHEXYL)PHTHALATE | 280. | |
| 117-84-0 | DI-N-OCTYLPHTHALATE | 10. | U |
| 205-99-2 | BENZO(B)FLUORANTHENE | 10. | U |
| 207-08-9 | BENZO(K)FLUORANTHENE | 10. | U |
| 50-32-8 | BENZO(A)PYRENE | 10. | U |
| 193-39-5 | INDENO(1,2,3-CD)PYRENE | 10. | U |
| 53-70-3 | DIBENZO(A,H)ANTHRACENE | 10. | U |
| 191-24-2 | BENZO(G,H,I)PERYLENE | 10. | U |

(1) - Cannot be separated from diphenylamine

2 0013

1F

EPA SAMPLE NO

JB803

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB-803

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 40623905

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

Number TICs found: 0

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

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | | | | |
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2 0028

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JB804

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB-804

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 40623906

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | PHENOL | 10. | U |
| 111-44-4 | BIS(2-CHLOROETHYL)ETHER | 10. | U |
| 95-57-8 | 2-CHLOROPHENOL | 10. | U |
| 541-73-1 | 1,3-DICHLOROBENZENE | 10. | U |
| 106-46-7 | 1,4-DICHLOROBENZENE | 10. | U |
| 100-51-6 | BENZYL ALCOHOL | 10. | U |
| 95-50-1 | 1,2-DICHLOROBENZENE | 10. | U |
| 95-48-7 | 2-METHYLPHENOL | 10. | U |
| 108-60-1 | BIS(2-CHLOROISOPROPYL)ETHER | 10. | U |
| 106-44-5 | 4-METHYLPHENOL | 10. | U |
| 621-64-7 | N-NITROSO-DI-N-PROPYLAMINE | 10. | U |
| 67-72-1 | HEXACHLOROETHANE | 10. | U |
| 98-95-3 | NITROBENZENE | 10. | U |
| 78-59-1 | ISOPHORONE | 10. | U |
| 88-75-5 | 2-NITROPHENOL | 10. | U |
| 105-67-9 | 2,4-DIMETHYLPHENOL | 10. | U |
| 65-85-0 | BENZOIC ACID | 50. | U |
| 111-91-1 | BIS(2-CHLOROETHOXY)METHANE | 10. | U |
| 120-83-2 | 2,4-DICHLOROPHENOL | 10. | U |
| 120-82-1 | 1,2,4-TRICHLOROBENZENE | 10. | U |
| 91-20-3 | NAPHTHALENE | 10. | U |
| 106-47-8 | 4-CHLOROANILINE | 10. | U R |
| 87-68-3 | HEXACHLOROBUTADIENE | 10. | U |
| 59-50-7 | 4-CHLORO-3-METHYLPHENOL | 10. | U |
| 91-57-6 | 2-METHYLNAPHTHALENE | 10. | U |
| 77-47-4 | HEXACHLOROCYCLOPENTADIENE | 10. | U |
| 88-06-2 | 2,4,6-TRICHLOROPHENOL | 10. | U |
| 95-95-4 | 2,4,5-TRICHLOROPHENOL | 50. | U |
| 91-58-7 | 2-CHLORONAPHTHALENE | 10. | U |
| 88-74-4 | 2-NITROANILINE | 50. | U |
| 131-11-3 | DIMETHYLPHTHALATE | 10. | U |
| 208-96-8 | ACENAPHTHYLENE | 10. | U |
| 606-20-2 | 2,6-DINITROTOLUENE | 10. | U |

1C

SEMIVOL ILE ORGANICS ANALYSIS DA SHEET

2 0029

EPA SAMPLE NC

JB804

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB-804

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 40623906

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-NITROANILINE | 50. | U R |
| 83-32-9 | ACENAPHTHENE | 10. | U |
| 51-28-5 | 2,4-DINITROPHENOL | 50. | U |
| 100-02-7 | 4-NITROPHENOL | 50. | U |
| 132-64-9 | DIBENZOFURAN | 10. | U |
| 121-14-2 | 2,4-DINITROTOLUENE | 10. | U |
| 84-66-2 | DIETHYLPHTHALATE | 10. | U |
| 7005-72-3 | 4-CHLOROPHENYL-PHENYLETHER | 10. | U |
| 86-73-7 | FLUORENE | 10. | U |
| 100-01-6 | 4-NITROANILINE | 50. | U J |
| 534-52-1 | 4,6-DINITRO-2-METHYLPHENOL | 50. | U |
| 86-30-6 | N-NITROSODIPHENYLAMINE (1) | 10. | U |
| 101-55-3 | 4-BROMOPHENYL-PHENYLETHER | 10. | U |
| 118-74-1 | HEXACHLOROBENZENE | 10. | U |
| 87-86-5 | PENTACHLOROPHENOL | 50. | U |
| 85-01-8 | PHENANTHRENE | 10. | U |
| 120-12-7 | ANTHRACENE | 10. | U |
| 84-74-2 | DI-N-BUTYLPHTHALATE | 10. | U |
| 206-44-0 | FLUORANTHENE | 10. | U |
| 129-00-0 | PYRENE | 10. | U |
| 85-68-7 | BUTYLBENZYLPHTHALATE | 10. | U |
| 91-94-1 | 3,3'-DICHLOROBENZIDINE | 20. | U R |
| 56-55-3 | BENZO(A)ANTHRACENE | 10. | U |
| 218-01-9 | CHRYSENE | 10. | U |
| 117-81-7 | BIS(2-ETHYLHEXYL)PHTHALATE | 10. | U |
| 117-84-0 | DI-N-OCTYLPHTHALATE | 10. | U |
| 205-99-2 | BENZO(B)FLUORANTHENE | 10. | U |
| 207-08-9 | BENZO(K)FLUORANTHENE | 10. | U |
| 50-32-8 | BENZO(A)PYRENE | 10. | U |
| 193-39-5 | INDENO(1,2,3-CD)PYRENE | 10. | U |
| 53-70-3 | DIBENZO(A,H)ANTHRACENE | 10. | U |
| 191-24-2 | BENZO(G,H,I)PERYLENE | 10. | U |

(1) - Cannot be separated from diphenylamine

2 0030

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JB804

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB-804

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 40623906

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

Number TICs found: 0

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

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
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18

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO: JB805

Lab Name: SWRI  Contract: 68-D9-0057

Lab Code: SWRI  Case No.: 12098  SAS No.:  SDG No.: JB802

Matrix: (soil/water) WATER  Lab Sample ID: JB-805

Sample wt/vol: 1000.0 (g/mL) ML  Lab File ID: 40623907

Level: (low/med) LOW  Date Received: 6/10/89

% Moisture: not dec. 100. dec. 0.  Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF  Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N  pH: 6.0  Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 108-95-2 | PHENOL | 10. | U |
| 111-44-4 | BIS(2-CHLOROETHYL)ETHER | 10. | U |
| 95-57-8 | 2-CHLOROPHENOL | 10. | U |
| 541-73-1 | 1,3-DICHLOROBENZENE | 10. | U |
| 106-46-7 | 1,4-DICHLOROBENZENE | 10. | U |
| 100-51-6 | BENZYL ALCOHOL | 10. | U |
| 95-50-1 | 1,2-DICHLOROBENZENE | 10. | U |
| 95-48-7 | 2-METHYLPHENOL | 10. | U |
| 108-60-1 | BIS(2-CHLOROISOPROPYL)ETHER | 10. | U |
| 106-44-5 | 4-METHYLPHENOL | 10. | U |
| 621-64-7 | N-NITROSO-DI-N-PROPYLAMINE | 10. | U |
| 67-72-1 | HEXACHLOROETHANE | 10. | U |
| 98-95-3 | NITROBENZENE | 10. | U |
| 78-59-1 | ISOPHORONE | 10. | U |
| 88-75-5 | 2-NITROPHENOL | 10. | U |
| 105-67-9 | 2,4-DIMETHYLPHENOL | 10. | U |
| 65-85-0 | BENZOIC ACID | 50. | U |
| 111-91-1 | BIS(2-CHLOROETHOXY)METHANE | 10. | U |
| 120-83-2 | 2,4-DICHLOROPHENOL | 10. | U |
| 120-82-1 | 1,2,4-TRICHLOROBENZENE | 10. | U |
| 91-20-3 | NAPHTHALENE | 10. | U |
| 106-47-8 | 4-CHLOROANILINE | 10. | U R |
| 87-68-3 | HEXACHLOROBUTADIENE | 10. | U |
| 59-50-7 | 4-CHLORO-3-METHYLPHENOL | 10. | U |
| 91-57-6 | 2-METHYLNAPHTHALENE | 10. | U |
| 77-47-4 | HEXACHLOROCYCLOPENTADIENE | 10. | U |
| 88-06-2 | 2,4,6-TRICHLOROPHENOL | 10. | U |
| 95-95-4 | 2,4,5-TRICHLOROPHENOL | 50. | U |
| 91-58-7 | 2-CHLORONAPHTHALENE | 10. | U |
| 88-74-4 | 2-NITROANILINE | 50. | U |
| 131-11-3 | DIMETHYLPHTHALATE | 10. | U |
| 208-96-8 | ACENAPHTHYLENE | 10. | U |
| 606-20-2 | 2,6-DINITROTOLUENE | 10. | U |

1C 2 0037

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JB805

Lab Name: SWRI Contract: 68-D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

Matrix: (soil/water) WATER Lab Sample ID: JB-805

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 40623907

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec. 100. dec. 0. Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 99-09-2 | 3-NITROANILINE | 50. | U R |
| 83-32-9 | ACENAPHTHENE | 10. | U |
| 51-28-5 | 2,4-DINITROPHENOL | 50. | U |
| 100-02-7 | 4-NITROPHENOL | 50. | U |
| 132-64-9 | DIBENZOFURAN | 10. | U |
| 121-14-2 | 2,4-DINITROTOLUENE | 10. | U |
| 84-66-2 | DIETHYLPHTHALATE | 10. | U |
| 7005-72-3 | 4-CHLOROPHENYL-PHENYLETHER | 10. | U |
| 86-73-7 | FLUORENE | 10. | U |
| 100-01-6 | 4-NITROANILINE | 50. | U J |
| 534-52-1 | 4,6-DINITRO-2-METHYLPHENOL | 50. | U |
| 86-30-6 | N-NITROSODIPHENYLAMINE (1) | 10. | U |
| 101-55-3 | 4-BROMOPHENYL-PHENYLETHER | 10. | U |
| 118-74-1 | HEXACHLOROBENZENE | 10. | U |
| 87-86-5 | PENTACHLOROPHENOL | 50. | U |
| 85-01-8 | PHENANTHRENE | 10. | U |
| 120-12-7 | ANTHRACENE | 10. | U |
| 84-74-2 | DI-N-BUTYLPHTHALATE | 10. | U |
| 206-44-0 | FLUORANTHENE | 10. | U |
| 129-00-0 | PYRENE | 10. | U |
| 85-68-7 | BUTYLBENZYLPHTHALATE | 10. | U |
| 91-94-1 | 3,3'-DICHLOROBENZIDINE | 20. | U R |
| 56-55-3 | BENZO(A)ANTHRACENE | 10. | U |
| 218-01-9 | CHRYSENE | 10. | U |
| 117-81-7 | BIS(2-ETHYLHEXYL)PHTHALATE | 10. | U |
| 117-84-0 | DI-N-OCTYLPHTHALATE | 10. | U |
| 205-99-2 | BENZO(B)FLUORANTHENE | 10. | U |
| 207-08-9 | BENZO(K)FLUORANTHENE | 10. | U |
| 50-32-8 | BENZO(A)PYRENE | 10. | U |
| 193-39-5 | INDENO(1,2,3-CD)PYRENE | 10. | U |
| 53-70-3 | DIBENZO(A,H)ANTHRACENE | 10. | U |
| 191-24-2 | BENZO(G,H,I)PERYLENE | 10. | U |

(1) - Cannot be separated from diphenylamine



JDY 7-2

2 0038

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: JB805

Lab Name: SWRI  Contract: 68-D9-0057

Lab Code: SWRI  Case No.: 12098  SAS No.:  SDG No.: JB802

Matrix: (soil/water) WATER  Lab Sample ID: JB-805

Sample wt/vol: 1000.0 (g/mL) ML  Lab File ID: 40623907

Level: (low/med) LOW  Date Received: 6/10/89

% Moisture: not dec. 100.  dec. 0.  Date Extracted: 6/12/89

Extraction: (SepF/Cont/Sonc) SEPF  Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N  pH: 6.0  Dilution Factor: 1.00

Number TICs found: 0

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

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | | | | |
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3 0004

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JB802

Lab Name: SWRI Contract: 68D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

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

Sample wt/vol: 1000. (g/mL)ML Lab File ID: 1JN2215

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec.100. dec. 0. Date Extracted: 6/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | ALPHA-BHC | .050 | U |
| 319-85-7 | BETA-BHC | .050 | U |
| 319-86-8 | DELTA-BHC | .050 | U |
| 58-89-9 | GAMMA-BHC | .050 | U |
| 76-44-8 | HEPTACHLOR | .050 | U |
| 309-00-2 | ALDRIN | .050 | U |
| 1024-57-3 | HEPTACHLOR EPOXIDE | .050 | U |
| 959-98-8 | ENDOSULFAN I | .050 | U |
| 60-57-1 | DIELDRIN | .10 | U |
| 72-55-9 | 4,4-DDE | .10 | U |
| 72-20-8 | ENDRIN | .10 | U |
| 33213-65-9 | ENDOSULFAN II | .10 | U |
| 72-54-8 | 4,4-DDD | .10 | U |
| 1031-07-8 | ENDOSULFAN SULFATE | .10 | U |
| 50-29-3 | 4,4-DDT | .10 | U |
| 72-43-5 | METHOXYCHLOR | .50 | U |
| 53494-70-5 | ENDRIN KETONE | .10 | U |
| 5103-71-9 | ALPHA-CHLORDANE | .50 | U |
| 5103-74-2 | GAMMA-CHLORDANE | .50 | U |
| 8001-35-2 | TOXAPHENE | 1.0 | U |
| 12674-11-2 | AROCLOR-1016 | .50 | U |
| 11104-28-2 | AROCLOR-1221 | .50 | U |
| 11141-16-5 | AROCLOR-1232 | .50 | U |
| 53469-21-9 | AROCLOR-1242 | .50 | U |
| 12672-29-6 | AROCLOR-1248 | .50 | U |
| 11097-69-1 | AROCLOR-1254 | 1.0 | U |
| 11096-82-5 | AROCLOR-1260 | 1.0 | U |



7-2-8

1D

# PESTICIDE ORGANICS ANALYSIS DATA SHEET

3 0010
EPA SAMPLE NO.

JB803

Lab Name: SWRI  Contract: 68D9-0057

Lab Code: SWRI  Case No.: 12098  SAS No.:  SDG No.: JB802

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

Sample wt/vol: 1000. (g/mL)ML  Lab File ID: 1JN2218

Level: (low/med) LOW  Date Received: 6/10/89

% Moisture: not dec.100.  dec. 0.  Date Extracted: 6/13/89

Extraction: (SepF/Cont/Sonc) SEPF  Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N  pH: 6.0  Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | ALPHA-BHC | .050 | U |
| 319-85-7 | BETA-BHC | .050 | U |
| 319-86-8 | DELTA-BHC | .050 | U |
| 58-89-9 | GAMMA-BHC | .050 | U |
| 76-44-8 | HEPTACHLOR | .050 | U |
| 309-00-2 | ALDRIN | .050 | U |
| 1024-57-3 | HEPTACHLOR EPOXIDE | .050 | U |
| 959-98-8 | ENDOSULFAN I | .050 | U |
| 60-57-1 | DIELDRIN | .10 | U |
| 72-55-9 | 4,4-DDE | .10 | U |
| 72-20-8 | ENDRIN | .10 | U |
| 33213-65-9 | ENDOSULFAN II | .10 | U |
| 72-54-8 | 4,4-DDD | .10 | U |
| 1031-07-8 | ENDOSULFAN SULFATE | .10 | U |
| 50-29-3 | 4,4-DDT | .10 | U |
| 72-43-5 | METHOXYCHLOR | .50 | U |
| 53494-70-5 | ENDRIN KETONE | .10 | U |
| 5103-71-9 | ALPHA-CHLORDANE | .50 | U |
| 5103-74-2 | GAMMA-CHLORDANE | .50 | U |
| 8001-35-2 | TOXAPHENE | 1.0 | U |
| 12674-11-2 | AROCLOR-1016 | .50 | U |
| 11104-28-2 | AROCLOR-1221 | .50 | U |
| 11141-16-5 | AROCLOR-1232 | .50 | U |
| 53469-21-9 | AROCLOR-1242 | .50 | U |
| 12672-29-6 | AROCLOR-1248 | .50 | U |
| 11097-69-1 | AROCLOR-1254 | 1.0 | U |
| 11096-82-5 | AROCLOR-1260 | 1.0 | U |

1D

# PESTICIDE ORGANICS ANALYSIS DATA SHEET

3 0015
EPA SAMPLE NO.

JB804

ab Name: SWRI  Contract: 68D9-0057

Lab Code: SWRI  Case No.: 12098  SAS No.:  SDG No.: JB802

atrix: (soil/water) WATER  Lab Sample ID:

Sample wt/vol: 1000. (g/mL)ML  Lab File ID: 1JN2220

Level: (low/med) LOW  Date Received: 6/10/89

Moisture: not dec.100. dec. 0.  Date Extracted: 6/13/89

Extraction: (SepF/Cont/Sonc) SEPF  Date Analyzed: 6/23/89

PC Cleanup: (Y/N) N  pH: 6.0  Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | ALPHA-BHC | .050 | U |
| 319-85-7 | BETA-BHC | .050 | U |
| 319-86-8 | DELTA-BHC | .050 | U |
| 58-89-9 | GAMMA-BHC | .050 | U |
| 76-44-8 | HEPTACHLOR | .050 | U |
| 309-00-2 | ALDRIN | .050 | U |
| 1024-57-3 | HEPTACHLOR EPOXIDE | .050 | U |
| 959-98-8 | ENDOSULFAN I | .050 | U |
| 60-57-1 | DIELDRIN | .10 | U |
| 72-55-9 | 4,4-DDE | .10 | U |
| 72-20-8 | ENDRIN | .10 | U |
| 33213-65-9 | ENDOSULFAN II | .10 | U |
| 72-54-8 | 4,4-DDD | .10 | U |
| 1031-07-8 | ENDOSULFAN SULFATE | .10 | U |
| 50-29-3 | 4,4-DDT | .10 | U |
| 72-43-5 | METHOXYCHLOR | .50 | U |
| 53494-70-5 | ENDRIN KETONE | .10 | U |
| 5103-71-9 | ALPHA-CHLORDANE | .50 | U |
| 5103-74-2 | GAMMA-CHLORDANE | .50 | U |
| 8001-35-2 | TOXAPHENE | 1.0 | U |
| 12674-11-2 | AROCLOR-1016 | .50 | U |
| 11104-28-2 | AROCLOR-1221 | .50 | U |
| 11141-16-5 | AROCLOR-1232 | .50 | U |
| 53469-21-9 | AROCLOR-1242 | .50 | U |
| 12672-29-6 | AROCLOR-1248 | .50 | U |
| 11097-69-1 | AROCLOR-1254 | 1.0 | U |
| 11096-82-5 | AROCLOR-1260 | 1.0 | U |



7-2-89

1D

# PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 3 0020

JB805

Lab Name: SWRI Contract: 68D9-0057

Lab Code: SWRI Case No.: 12098 SAS No.: SDG No.: JB802

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

Sample wt/vol: 500. (g/mL)ML Lab File ID: 1JN2221

Level: (low/med) LOW Date Received: 6/10/89

% Moisture: not dec.100. dec. 0. Date Extracted: 6/13/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 6/23/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | ALPHA-BHC | .050 | U |
| 319-85-7 | BETA-BHC | .050 | U |
| 319-86-8 | DELTA-BHC | .050 | U |
| 58-89-9 | GAMMA-BHC | .050 | U |
| 76-44-8 | HEPTACHLOR | .050 | U |
| 309-00-2 | ALDRIN | .050 | U |
| 1024-57-3 | HEPTACHLOR EPOXIDE | .050 | U |
| 959-98-8 | ENDOSULFAN I | .050 | U |
| 60-57-1 | DIELDRIN | .10 | U |
| 72-55-9 | 4,4-DDE | .10 | U |
| 72-20-8 | ENDRIN | .10 | U |
| 33213-65-9 | ENDOSULFAN II | .10 | U |
| 72-54-8 | 4,4-DDD | .10 | U |
| 1031-07-8 | ENDOSULFAN SULFATE | .10 | U |
| 50-29-3 | 4,4-DDT | .10 | U |
| 72-43-5 | METHOXYCHLOR | .50 | U |
| 53494-70-5 | ENDRIN KETONE | .10 | U |
| 5103-71-9 | ALPHA-CHLORDANE | .50 | U |
| 5103-74-2 | GAMMA-CHLORDANE | .50 | U |
| 8001-35-2 | TOXAPHENE | 1.0 | U |
| 12674-11-2 | AROCLOR-1016 | .50 | U |
| 11104-28-2 | AROCLOR-1221 | .50 | U |
| 11141-16-5 | AROCLOR-1232 | .50 | U |
| 53469-21-9 | AROCLOR-1242 | .50 | U |
| 12672-29-6 | AROCLOR-1248 | .50 | U |
| 11097-69-1 | AROCLOR-1254 | 1.0 | U |
| 11096-82-5 | AROCLOR-1260 | 1.0 | U |

## Appendix E

## SITE INSPECTION REPORT FORM (EPA FORM 2070-13)

EPA

# POTENTIAL HAZARDOUS WASTE SITE
## SITE INSPECTION REPORT
## PART 1 - SITE LOCATION AND INSPECTION INFORMATION

**I. IDENTIFICATION**

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

**II. SITE NAME AND LOCATION**

| 01 SITE NAME (Legal, common, or descriptive name of site) | 02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER | | | | |
|---|---|---|---|---|---|
| Paxton Sales Corporation | 108 West Mead | | | | |
| 03 CITY | 04 STATE | 05 ZIP CODE | 06 COUNTY | 07 COUNTY CODE | 08 CONG DIST |
| Yakima | WA | 98902 | Yakima | 77 | 04 |

09 COORDINATES: LATITUDE 46° 34' 41.0" | LONGITUDE 120° 30' 23.0"

10 TYPE OF OWNERSHIP (Check one): X A. PRIVATE ___B. FEDERAL _____ ___C. STATE ___D.COUNTY ___E. MUNICIPAL ___F. OTHER _____ ___G.UNKNOWN

**III. INSPECTION INFORMATION**

| 01 DATE OF INSPECTION | 02 SITE STATUS | 03 YEARS OF OPERATION | | |
|---|---|---|---|---|
| 1/31/89 (MO/DAY/YR) | X ACTIVE ___INACTIVE | 1969 (BEGINNING YEAR) | Present (ENDING YEAR) | ___UNKNOWN |

04 AGENCY PERFORMING INSPECTION (Check all that apply)
___A. EPA X B. EPA CONTRACTOR Ecology & Environment, Inc. (E & E) (Name of firm) ___C. MUNICIPAL ___D. MUNICIPAL CONTRACTOR
___E. STATE ___F. STATE CONTRACTOR _____ (Name of firm) ___G. OTHER _____ (Specify)

| 05 CHIEF INSPECTOR | 06 TITLE | 07 ORGANIZATION | 08 TELEPHONE NO. |
|---|---|---|---|
| Mary Bandrowski | Field Investigator | E & E | 206/624-9537 |
| 09 OTHER INSPECTORS | 10 TITLE | 11 ORGANIZATION | 12 TELEPHONE NO. |
| Susan Niemuth | Field Investigator | E & E | 206/624-9537 |
| | | | |
| | | | |
| | | | |
| | | | |
| 13 SITE REPRESENTATIVES INTERVIEWED | 14 TITLE | 15 ADDRESS | 16 TELEPHONE NO. |
| Ken Paxton | Owner | 108 West Mead<br>Yakima, WA 98902 | (509) 453-0391 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |



| 17 ACCESS GAINED BY (Check one) | 18 TIME OF INSPECTION | 19 WEATHER CONDITIONS |
|---|---|---|
| X PERMISSION<br>___ WARRANT | 1400 hours (1/31/89) | Cloudy, overcast |

**IV. INFORMATION AVAILABLE FROM**

| 01 CONTACT | 02 OF (Agency/Organization) | 03 TELEPHONE NO. |
|---|---|---|
| Deborah Flood | EPA, Region 10 | (206) 442-272 |

| 04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM | 05 AGENCY | 06 ORGANIZATION | 07 TELEPHONE NO. | 08 DATE |
|---|---|---|---|---|
| Mary Bandrowski | EPA-FIT | E & E | 206/624-9537 | 1/31/89 |



EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- X A. SOLID
- ___ B. POWDER, FINES
- X C. SLUDGE
- ___ D. OTHER (Specify)
- ___ E. SLURRY
- X F. LIQUID
- ___ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS
- CUBIC YARDS
- NO. OF DRUMS approx. 3

03 WASTE CHARACTERISTICS (Check all that apply)

- X A. TOXIC
- ___ B. CORROSIVE
- ___ C. RADIOACTIVE
- ___ D. PERSISTENT
- ___ E. SOLUBLE
- ___ F. INFECTIOUS
- ___ G. FLAMMABLE
- ___ H. IGNITABLE
- ___ I. HIGHLY VOLATILE
- ___ J. EXPLOSIVE
- ___ K. REACTIVE
- ___ L. INCOMPATIBLE
- ___ M. NOT APPLICABLE

III. WASTE TYPE

| CATEGORY | SUBSTANCE NAME | 01 GROSS AMOUNT | 02 UNIT OF MEASURE | 03 COMMENTS |
|---|---|---|---|---|
| SLU | SLUDGE | 1/2 | Gallon | Stored in 5-gallon bucket on-site |
| OLW | OILY WASTE | | | |
| SOL | SOLVENTS | | | |
| PSD | PESTICIDES | | | |
| OCC | OTHER ORGANIC CHEMICALS | 55 | Gallons | |
| IOC | INORGANIC CHEMICALS | 25 | Gallons | Cyanide salts |
| ACD | ACIDS | | | |
| BAS | BASES | | | |
| MES | HEAVY METALS | | | |

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

| 01 CATEGORY | 02 SUBSTANCE NAME | 03 CAS NUMBER | 04 STORAGE/DISPOSAL METHOD | 05 CONCENTRATION | 06 MEASURE OF CONCENTRATION |
|---|---|---|---|---|---|
| OCC | Methylene Chloride | 75-09-2 | Dry Well | 31,000 | ppb |
| OCC | Acetone | 67-64-1 | Dry Well | 35,000 | ppb |
| OCC | Tetrachloroethene | 127-18-4 | Dry Well | 34,000 | ppb |
| OCC | Toluene | 108-88-3 | Dry Well | 31,000 | ppb |
| OCC | Ethylbenzene | 100-41-4 | Dry Well | 8,100 J | ppb |
| OCC | Xylene (total) | 1330-20-7 | Dry Well | 94,000 | ppb |
| OCC | Naphthalene | 91-20-3 | Dry Well | 23,000 J | ppb |
| OCC | 4-Chloro-3-methylphenol | 59-50-7 | Dry Well | 200,000 J | ppb |
| OCC | 2-Methylnaphthalene | 91-57-6 | Dry Well | 17,000 J | ppb |
| OCC | bis(2-ethylhexyl)phthalate | 117-81-7 | Dry Well | 22.000 J | ppb |
| OCC | Di-n-octylphthalate | 117-84-0 | Dry Well | 14,000 J | ppb |
| IOC | Barium | 7440-39-3 | Dry Well | 827,000 | ppm |
| IOC | Chromium | 7440-47-3 | Dry Well | 169 | ppm |
| IOC | Cobalt | 7440-48-4 | Dry Well | 113 J | ppm |
| IOC | Copper | 7440-50-8 | Dry Well | 2,160 | ppm |
| IOC | Iron | 7439-89-6 | Dry Well | 115,000 | ppm |
| IOC | Nickel | 7440-02-0 | Dry Well | 125 | ppm |
| IOC | Zinc | 7440-66-6 | Dry Well | 2,550 | ppm |
| IOC | Cyanide | 143-33-9 | Dry Well | 323 | ppm |

V. FEEDSTOCKS (See Appendix for CAS Numbers)

| CATEGORY | 01 FEEDSTOCK NAME | 02 CAS NUMBER | CATEGORY | 01 FEEDSTOCK NAME | 02 CAS NUMBER |
|---|---|---|---|---|---|
| FDS | | | FDS | | |
| FDS | | | FDS | | |
| FDS | | | FDS | | |
| FDS | | | FDS | | |

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)


1. Sax, Irving, 1986, Rapid Guide to Hazardous Chemicals in the Workplace, Van Nostrand Reinhold Company.
2. Washington State Department of Ecology Files, March 8, 1985.
3. EPA CERCLIS Files, Paxton Sales Corporation, 1989.




EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION — 02 X OBSERVED (DATE: 6/89) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: <100 — 04 NARRATIVE DESCRIPTION

Contamination attributable to the site was observed in a downgradient well at levels three times background concentrations. It is estimated that drinking water resources of 100 people within one-half mile in the immediate vicinity of the site may potentially be affected. It is estimated that 10,500 people within a 3-mile radius of the site may potentially be impacted.

01 ___ B. SURFACE WATER CONTAMINATION — 02 ___ OBSERVED (DATE: ) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: — 04 NARRATIVE DESCRIPTION

None observed, reported, or suspected.

01 ___ C. CONTAMINATION OF AIR — 02 ___ OBSERVED (DATE: ) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: — 04 NARRATIVE DESCRIPTION

None observed, reported, or suspected.

01 ___ D. FIRE/EXPLOSIVE CONDITIONS — 02 ___ OBSERVED (DATE: ) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: — 04 NARRATIVE DESCRIPTION

None observed, reported, or suspected.

01 X E. DIRECT CONTACT — 02 ___ OBSERVED (DATE: ) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: — 04 NARRATIVE DESCRIPTION

Approximately 10 to 15 employees working at the facility may be potentially affected by contamination generated during case hardening procedures and with contamination present within the dry well.

01 X F. CONTAMINATION OF SOIL — 02 X OBSERVED (DATE: 1984) ___ POTENTIAL ___ ALLEGED

03 AREA POTENTIALLY AFFECTED: Unknown (Acres) — 04 NARRATIVE DESCRIPTION

A sediment sample collected from the dry well revealed elevated concentrations of cyanide and other inorganic contaminants.

01 X G. DRINKING WATER CONTAMINATION — 02 X OBSERVED (DATE: 6/89) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: <100 — 04 NARRATIVE DESCRIPTION

Prior to 1984, wastes were disposed of in an on-site dry well. Contaminants attributable to the site were detected in a downgradient well at levels three times background. It is estimated that the drinking water resources of 100 people within one mile of the site may potentially be affected.

01 ___ H. WORKER EXPOSURE/INJURY — 02 ___ OBSERVED (DATE: ) ___ POTENTIAL ___ ALLEGED

03 WORKERS POTENTIALLY AFFECTED: — 04 NARRATIVE DESCRIPTION

None observed, reported, or suspected.

01 ___ I. POPULATION EXPOSURE/INJURY — 02 ___ OBSERVED (DATE: ) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: — 04 NARRATIVE DESCRIPTION

None observed, reported or suspected.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

II. HAZARDOUS CONDITIONS AND INCIDENTS (CONTINUED)

01 ___ J. DAMAGE TO FLORA — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

None observed, reported, or suspected. No flora present. Partially paved.

01 ___ K. DAMAGE TO FAUNA — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION (Include name(s) of species)

None observed, reported, or suspected.

01 ___ L. CONTAMINATION OF FOOD CHAIN — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

None observed, reported, or suspected.

01 X M. UNSTABLE CONTAINMENT OF WASTES — 02 X OBSERVED (DATE: 1/89) ___ POTENTIAL ___ ALLEGED

(Spills/runoff/standing liquids/leaking drums)

03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

An unbermed drum of water is used to cool case hardened parts. Prior to 1984, rinse water from a secondary, overflowing rinse tank was drained to the dry well.

01 X N. DAMAGE TO OFFSITE PROPERTY — 02 ___ OBSERVED (DATE: 1984) X POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

In 1984, Wayne Baughman, who owns a rental duplex two buildings south of the site, complained about liquid wastes running off the site and collecting in a depression on South 2nd, near his well.

01 ___ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

None observed or reported.

01 X P. ILLEGAL/UNAUTHORIZED DUMPING — 02 X OBSERVED (DATE: 1984) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

Prior to 1984, runoff from an overflowing rinse tank was drained to the dry well.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None observed, reported, or suspected.



III. TOTAL POPULATION POTENTIALLY AFFECTED: 40,000

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references. e.g., state files, sample analysis, reports)

1. EPA CERCLIS File, Paxton Sales Corporation, Yakima, Washington.
2. E & E Site Inspection, January 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

II. PERMIT INFORMATION

| 01 TYPE OF PERMIT ISSUED (Check all that apply) | 02 PERMIT NUMBER | 03 DATE ISSUED | 04 EXPIRATION DATE | 05 COMMENTS |
|---|---|---|---|---|
| ___A. NPDES | | | | |
| ___B. UIC | | | | |
| ___C. AIR | | | | |
| ___D. RCRA | | | | |
| ___E. RCRA INTERIM STATUS | | | | |
| ___F. SPCC PLAN | | | | |
| X G. STATE (Specify) Dept. of Ecology | #9030 | 10/1/85 | | For the discharge of cyanid heat treatment waste water; |
| ___H. LOCAL (Specify) | | | | for cutting oil mixup/ cleanup water to the |
| ___I. OTHER (Specify) | | | | municipal sewer and for discharging contact cooled |
| ___J. NONE | | | | water from ARC-welder to the dry well. |

III. SITE DESCRIPTION

| 01 STORAGE/DISPOSAL (Check all that apply) | 02 AMOUNT | 03 UNIT OF MEASURE |
|---|---|---|
| ___A. SURFACE IMPOUNDMENT | | |
| ___B. PILES | | |
| ___C. DRUMS, ABOVE GROUND | | |
| ___D. TANK, ABOVE GROUND | | |
| ___E. TANK, BELOW GROUND | | |
| ___F. LANDFILL | | |
| ___G. LANDFARM | | |
| ___H. OPEN DUMP | | |
| X I. OTHER (Specify) Dry Well | Unknown | |

04 TREATMENT (Check all that apply)
___A. INCINERATION N/A
___B. UNDERGROUND INJECTION
___C. CHEMICAL/PHYSICAL
___D. BIOLOGICAL
___E. WASTE OIL PROCESSING
___F. SOLVENT RECOVERY
___G. OTHER RECYCLING/RECOVERY
___H. OTHER _____ (Specify)

05 Other
X A. BUILDINGS ON SITE One

06 AREA OF SITE
1/2 (Acres

07 COMMENTS
Prior to the Department of Ecology investigation (1984) and the issuing of the discharge permit, rinse waters from case-harding procedures were discharged to the dry well located at the base of the loading dock adjacent to the building.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)
___A. ADEQUATE, SECURE ___B.MODERATE X C.INADEQUATE, POOR ___D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.
Case hardened parts are dipped into a molten sodium cyanide bath, and then dipped into a unbermed 25-gallon drum of water. Walls around the drum were stained from the quenching process and any runoff from rinsing would drain to S. 2nd Avenue which is unpaved.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: X YES ___NO
02 COMMENTS
The dry well is covered by a lid which is easily removed.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

1. E & E Site Inspection, 1989.
2. Washington State Department of Ecology Files, 1989.

EPA

**POTENTIAL HAZARDOUS WASTE SITE**
**SITE INSPECTION REPORT**
**PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA**

**I. IDENTIFICATION**

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

**II. DRINKING WATER SUPPLY**

01 TYPE OF DRINKING SUPPLY (Check as applicable)

| | SURFACE | WELL |
|---|---|---|
| COMMUNITY | A. X | B. X |
| NON-COMMUNITY | C. ___ | D. X |

02 STATUS

| ENDANGERED | AFFECTED | MONITORED |
|---|---|---|
| A. ___ | B. ___ | C. ___ |
| D. ___ | E. X | F. ___ |

03 DISTANCE TO SITE

A. <1 (mi)
B. <0.1 (mi)

**III. GROUNDWATER**

01 GROUNDWATER USE IN VICINITY (Check one)

___A. ONLY SOURCE FOR DRINKING
X B. DRINKING (Other sources available)
COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
___C. COMMERCIAL, INDUSTRIAL IRRIGATION (Limited other sources available)
___D. NOT USED UNUSABLE

02 POPULATION SERVED BY GROUNDWATER ~10,000

03 DISTANCE TO NEAREST DRINKING WATER WELL <0.1 (mi)

| 04 DEPTH TO GROUNDWATER | 05 DIRECTION OF GROUNDWATER FLOW | 06 DEPTH TO AQUIFER OF CONCERN | 07 POTENTIAL YIELD OF AQUIFER | 08 SOLE SOURCE AQUIFER |
|---|---|---|---|---|
| <20 (ft) | S-SE | 10-25 (ft) | Unknown (gpd) | ___YES X NO |

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

Within 75 to 1000 feet immediately downgradient of the facility.

| 10 RECHARGE AREA | | 11 DISCHARGE AREA | |
|---|---|---|---|
| X YES | COMMENTS | ___YES | COMMENTS |
| ___NO | | X NO | |

**IV. SURFACE WATER**

01 SURFACE WATER USE (Check one)

X A. RESERVOIR, RECREATION DRINKING WATER SOURCE
___B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
___C. COMMERCIAL, INDUSTRIAL
___D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

| NAME: | AFFECTED | DISTANCE TO SITE |
|---|---|---|
| Yakima River | ___ | 2 (m |
| Wide Hollow Creek (Irrigation channel) | ___ | 1 (m |
| | ___ | (m |

**V. DEMOGRAPHIC AND PROPERTY INFORMATION**

01 TOTAL POPULATION WITHIN

| ONE (1) MILE OF SITE | TWO (2) MILES OF SITE | THREE (3) MILES OF SITE |
|---|---|---|
| A. 8,000 | B. 26,000 | C. 40,000 |
| NO. OF PERSONS | NO. OF PERSONS | NO. OF PERSONS |

02 DISTANCE TO NEAREST POPULATION
<0.1 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE
5,000

04 DISTANCE TO NEAREST OFF-SITE BUILDING
<0.1 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site e.g., rural, village, densely populated urban area)

The site is located in the City of Yakima (population 50,000). The area around the site is a mixture of industrial, commercial, and residential development.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

## II. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

___A. $10^{-6}$ - $10^{-8}$ cm/sec ___B. $10^{-4}$ - $10^{-6}$ cm/sec ___C. $10^{-4}$ - $10^{-3}$ cm/sec _X_ D. GREATER THAN $10^{-3}$ cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

___A. IMPERMEABLE (Less than $10^{-6}$ cm/sec) ___B. RELATIVELY IMPERMEABLE ($10^{-4}$ - $10^{-6}$ cm/sec) _X_ C. RELATIVELY PERMEABLE ($10^{-2}$ - $10^{-4}$ cm/sec) ___D. VERY PERMEABLE (Greater than $10^{-2}$ cm/sec)

| 03 DEPTH TO BEDROCK | 04 DEPTH OF CONTAMINATED SOIL ZONE | 05 SOIL pH |
|---|---|---|
| > 750 (ft) | Unknown (ft) | Unknown |

| 06 NET PRECIPITATION | 07 ONE-YEAR 24-HOUR RAINFALL | 08 SLOPE: SITE SLOPE | DIRECTION OF SITE SLOPE | TERRAIN AVERAGE SLOPE |
|---|---|---|---|---|
| -22 (in) | .88 (in) | <1 % | SE | 1-2 % |

09 FLOOD POTENTIAL
SITE IS IN N/A YEAR FLOODPLAIN

10 N/A SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5-acre minimum)

ESTUARINE: A. N/A (mi) OTHER: B. N/A (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
N/A (mi)
ENDANGERED SPECIES:

13 LAND USE IN VICINITY

DISTANCE TO:

| COMMERCIAL/INDUSTRIAL | RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES | AGRICULTURAL LANDS: PRIME AG LAND | AG LAND |
|---|---|---|---|
| A. <1 (mi) | B. <1 (mi) | C. <1 (mi) | D. 2 (mi |

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site lies on the outskirts of the Yakima River Floodplain, approximately 2 miles south of downtown Yakima. The Yakima river lies 2 miles east of the site. The intervening terrain slopes, slightly towards the river.

## VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)


1. Washington State DOE Well Logs, USGS 7.5 Topo Quads, Yakima-East, and West.
2. Washington State Water Supply Bulletin #51.
3. Climatic Atlas of the U.S., NOAA, 1968.
4. Precipitation Frequency Atlas for the Western U.S., Volume V, NOAA, 1973.
5. Soil Survey of Yakima County Area, Washington, SCS, 1985.
6. Washington State Department of Natural Resources, February 7, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

II. SAMPLES TAKEN

| SAMPLE TYPE | 01 NUMBER OF SAMPLES TAKEN | 02 SAMPLES SENT TO | 03 ESTIMATED DATE RESULTS AVAILABLE |
|---|---|---|---|
| GROUNDWATER | 3 | Inorganics and cyanide - Organics - Industrial Corrosion Management | 7/89 |
| SURFACE WATER | | | |
| WASTE | | | |
| AIR | | | |
| RUNOFF | | | |
| SPILL | | | |
| SOIL | 1 | Inorganics & cyanide - Laucks Testing Lab Organics - Industrial Corrosion Management | 7/89 |
| VEGETATION | | | |
| OTHER | | | |

III. FIELD MEASUREMENTS TAKEN

| 01 TYPE | 02 COMMENTS Well | TOC | pH | Conductivity μ ohms |
|---|---|---|---|---|
| | De Sart Well | 15.3 | 7.1 | 300 |
| | Sorenson Well | 16.1 | 7.11 | 285 |
| | Ward Well (bkgnd) | 16.7 | 7.25 | 379 |
| | | | | |

IV. PHOTOGRAPHS AND MAPS

01 TYPE X GROUND X AERIAL

02 IN CUSTODY OF Ecology and Environment, Inc./EPA Region 10
(Name of organization or individual)

03 MAPS
X YES
___ NO

04 LOCATION OF MAPS
EPA Region 10 - Site File

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1. E & E Site Inspection, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

**II. CURRENT OPERATOR** (Provide if different from owner)

| 01 NAME | 02 D+B NUMBER |
|---|---|
| Kenneth Paxton | |

| 03 STREET ADDRESS (P.O. BOX, RFD #, ETC.) | 04 SIC CODE |
|---|---|
| 108 West Mead | |

| 05 CITY | 06 STATE | 07 ZIP CODE |
|---|---|---|
| Yakima | WA | 98902 |

| 08 YEARS OF OPERATION | 09 NAME OF OWNER |
|---|---|
| 20 | Same as above |

**OPERATOR'S PARENT COMPANY** (If applicable)

| 10 NAME | 11 D+B NUMBER |
|---|---|
| | |

| 12 STREET ADDRESS (P.O. BOX, RFD #, ETC.) | 13 SIC CODE |
|---|---|
| | |

| 14 CITY | 15 STATE | 16 ZIP CODE |
|---|---|---|
| | | |

**III. PREVIOUS OPERATOR(S)** (List most recent first; provide only if different from owner)

| 01 NAME | 02 D+B NUMBER |
|---|---|
| | |

| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE |
|---|---|
| | |

| 05 CITY | 06 STATE | 07 ZIP CODE |
|---|---|---|
| | | |

| 08 YEARS OF OPERATION | 09 NAME OF OWNER DURING THIS PERIOD |
|---|---|
| | |

**PREVIOUS OPERATORS' PARENT COMPANIES** (If applicable)

| 10 NAME | 11 D+B NUMBER |
|---|---|
| | |

| 12 STREET ADDRESS (P.O. Box, RFD #, etc.) | 13 SIC CODE |
|---|---|
| | |

| 14 CITY | 15 STATE | 16 ZIP CODE |
|---|---|---|
| | | |

| 01 NAME | 02 D+B NUMBER |
|---|---|
| | |

| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE |
|---|---|
| | |

| 05 CITY | 06 STATE | 07 ZIP CODE |
|---|---|---|
| | | |

| 08 YEARS OF OPERATION | 09 NAME OF OWNER DURING THIS PERIOD |
|---|---|
| | |

| 10 NAME | 11 D+B NUMBER |
|---|---|
| | |

| 12 STREET ADDRESS (P.O. Box, RFD #, etc.) | 13 SIC CODE |
|---|---|
| | |

| 14 CITY | 15 STATE | 16 ZIP CODE |
|---|---|---|
| | | |

| 01 NAME | 02 D+B NUMBER |
|---|---|
| | |

| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE |
|---|---|
| | |

| 05 CITY | 06 STATE | 07 ZIP CODE |
|---|---|---|
| | | |

| 08 YEARS OF OPERATION | 09 NAME OF OWNER DURING THIS PERIOD |
|---|---|
| | |

| 10 NAME | 11 D+B NUMBER |
|---|---|
| | |

| 12 STREET ADDRESS (P.O. Box, RFD #, etc.) | 13 SIC CODE |
|---|---|
| | |

| 14 CITY | 15 STATE | 16 ZIP CODE |
|---|---|---|
| | | |

**IV. SOURCES OF INFORMATION** (Cite specific references, e.g., state files, sample analysis, reports)

1. E & E Site Inspection, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

II. ON-SITE GENERATOR

| 01 NAME | 02 D+B NUMBER | |
|---|---|---|
| 03 STREET ADDRESS (P.O. BOX, RFD #, ETC.) | 04 SIC CODE | |
| 05 CITY | 06 STATE / 07 ZIP CODE | |

III. OFF-SITE GENERATOR(S)

| 01 NAME | 02 D+B NUMBER | 01 NAME | 02 D+B NUMBER |
|---|---|---|---|
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE |
| 05 CITY | 06 STATE / 07 ZIP CODE | 05 CITY | 06 STATE / 07 ZIP CODE |
| 01 NAME | 02 D+B NUMBER | 01 NAME | 02 D+B NUMBER |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE |
| 05 CITY | 06 STATE / 07 ZIP CODE | 05 CITY | 06 STATE / 07 ZIP CODE |

IV. TRANSPORTER(S)

| 01 NAME | 02 D+B NUMBER | 01 NAME | 02 D+B NUMBER |
|---|---|---|---|
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE |
| 05 CITY | 06 STATE / 07 ZIP CODE | 05 CITY | 06 STATE / 07 ZIP CODE |
| 01 NAME | 02 D+B NUMBER | 01 NAME | 02 D+B NUMBER |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE | 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | 04 SIC CODE |
| 05 CITY | 06 STATE / 07 ZIP CODE | 05 CITY | 06 STATE / 07 ZIP CODE |

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

II. PAST RESPONSE ACTIVITIES

| | | | |
|---|---|---|---|
| 01 ___ A. WATER SUPPLY CLOSED | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ B. TEMPORARY WATER SUPPLY PROVIDED | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ C. PERMANENT WATER SUPPLY PROVIDED | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ D. SPILLED MATERIAL REMOVED | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ E. CONTAMINATED SOIL REMOVED | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ F. WASTE REPACKAGED | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 _X_ G. WASTE DISPOSED ELSEWHERE | 02 DATE | 1984 | 03 AGENCY WDOE |
| 04 DESCRIPTION Wastewater generated in case-hardening was discharged to a dry well in 1984, Ecology stopped disposal to the dry dry well. Wastes are now discharged to the municipal sewer system. | | | |
| 01 ___ H. ON SITE BURIAL | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ I. IN SITU CHEMICAL TREATMENT | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ J. IN SITU BIOLOGICAL TREATMENT | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ K. IN SITU PHYSICAL TREATMENT | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ L. ENCAPSULATION | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ M. EMERGENCY WASTE TREATMENT | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ N. CUTOFF WALLS | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ O. EMERGENCY DIKING/SURFACE WATER DIVERSION | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ P. CUTOFF TRENCHES/SUMP | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |
| 01 ___ Q. SUBSURFACE CUTOFF WALL | 02 DATE | | 03 AGENCY |
| 04 DESCRIPTION N/A | | | |

II. PAST RESPONSE ACTIVITIES (Continued)

01 ___R. BARRIER WALLS CONSTRUCTED | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___S. CAPPING/COVERING | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___T. BULK TANKAGE REPAIRED | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___U. GROUT CURTAIN CONSTRUCTED | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___V. BOTTOM SEALED | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___W. GAS CONTROL | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___X. FIRE CONTROL | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___Y. LEACHATE TREATMENT | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___Z. AREA EVACUATED | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___1. ACCESS TO SITE RESTRICTED | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___2. POPULATION RELOCATED | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

01 ___3. OTHER REMEDIAL ACTIVITIES | 02 DATE _____ | 03 AGENCY _____
04 DESCRIPTION
N/A

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1. Washington State Department of Ecology Files, 1989.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

| 01 STATE | 02 SITE NUMBER |
|---|---|
| WA | D009246208 |

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ___YES X NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

1984, Washington State Department of Ecology Waste Discharge Permit
1988, Ecology and Environment, Preliminary Assessment
1989, Ecology and Environment, Site Investigation

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1. Washington State Department of Ecology Files, 1989.
2. E & E, Preliminary Assessment, 1989.
3. E & E, Site Investigation, 1989.

## Appendix F

## FIELD PARAMETERS FOR GROUNDWATER SAMPLES

## FIELD PARAMETERS

| March 27, 1989 | June 9, 1989 |
|---|---|
| DW1 - Baughman Residence | DW1' - De Sart Residence |
| Temperature: 15.8°C<br>pH: 7.40<br>Conductivity: 309 µhos | Temperature: 15.3°C<br>pH: 7.1<br>Conductivity: 300 µhos |
| DW2 - Sorenson Residence | DW2 - Sorenson Residence |
| Temperature: 15.9°C<br>pH: 7.29<br>Conductivity: 209 µhos | Temperature: 16.1°C<br>pH: 7.11<br>Conductivity: 285 µhos |
| DW3 - Ward Residence | DW3 - Ward Residence |
| Temperature: 14.8°C<br>pH: 7.20<br>Conductivity: -- | Temperature: 16.7°C<br>pH: 7.25<br>Conductivity: 379 µhos |

-- Not measured.