# FINAL SITE INSPECTION REPORT
# FOR
# MAGNUM SALVAGE
# ALBANY, OREGON

TDD F10-8901-024
PAN FOR0222SB

Report Prepared by: Ecology and Environment, Inc.
Date: September 1989

Submitted to: J.E. Osborn, Regional Project Officer
Field Operations and Technical Support Branch
U.S. Environmental Protection Agency
Region 10
Seattle, Washington

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FINAL SITE INSPECTION REPORT
MAGNUM SALVAGE
ALBANY, OREGON
TDD F10-8901-024
PAN FOR0222SB

## Site Name/Address

Magnum Salvage
1052 Goldfish Farm Road
Albany, Oregon 97321

## Site Inspection Participants

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## Date(s) of Investigation

Site Reconnaissance: February 7, 1989
Sampling: April 13, 1989

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## ABSTRACT

Pursuant to U.S. Environmental Protection Agency (EPA) Contract Number 68-01-7347 and Technical Directive Document (TDD) Number F10-8901-024, a file review and Screening Site Inspection of the Magnum Salvage Site, located in Albany, Oregon, was conducted between February and April 1989. As a part of this inspection, 38 on-site soil samples, 4 groundwater samples, and 3 sediment samples were collected to evaluate the site's potential for inclusion on the National Priorities List (NPL). The samples were analyzed for PCBs through Region 10 FASP and for EPA TCL compounds through the EPA's Contract Laboratory Program (CLP).

On-site soil is contaminated with PCBs and several inorganic analytes including antimony, arsenic, cadmium, copper, lead, silver, and zinc.

## 1.0 INTRODUCTION

Pursuant to U.S. Environmental Protection Agency (EPA) Contract No. 68-01-7347 and Technical Directive Document (TDD) No. F10-8901-024, Ecology and Environment, Inc. (E & E) conducted a Screening Site Inspection (SSI) of the Magnum Salvage/Horizon Vehicle Site located in Albany, Oregon. 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 Magnum Salvage 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

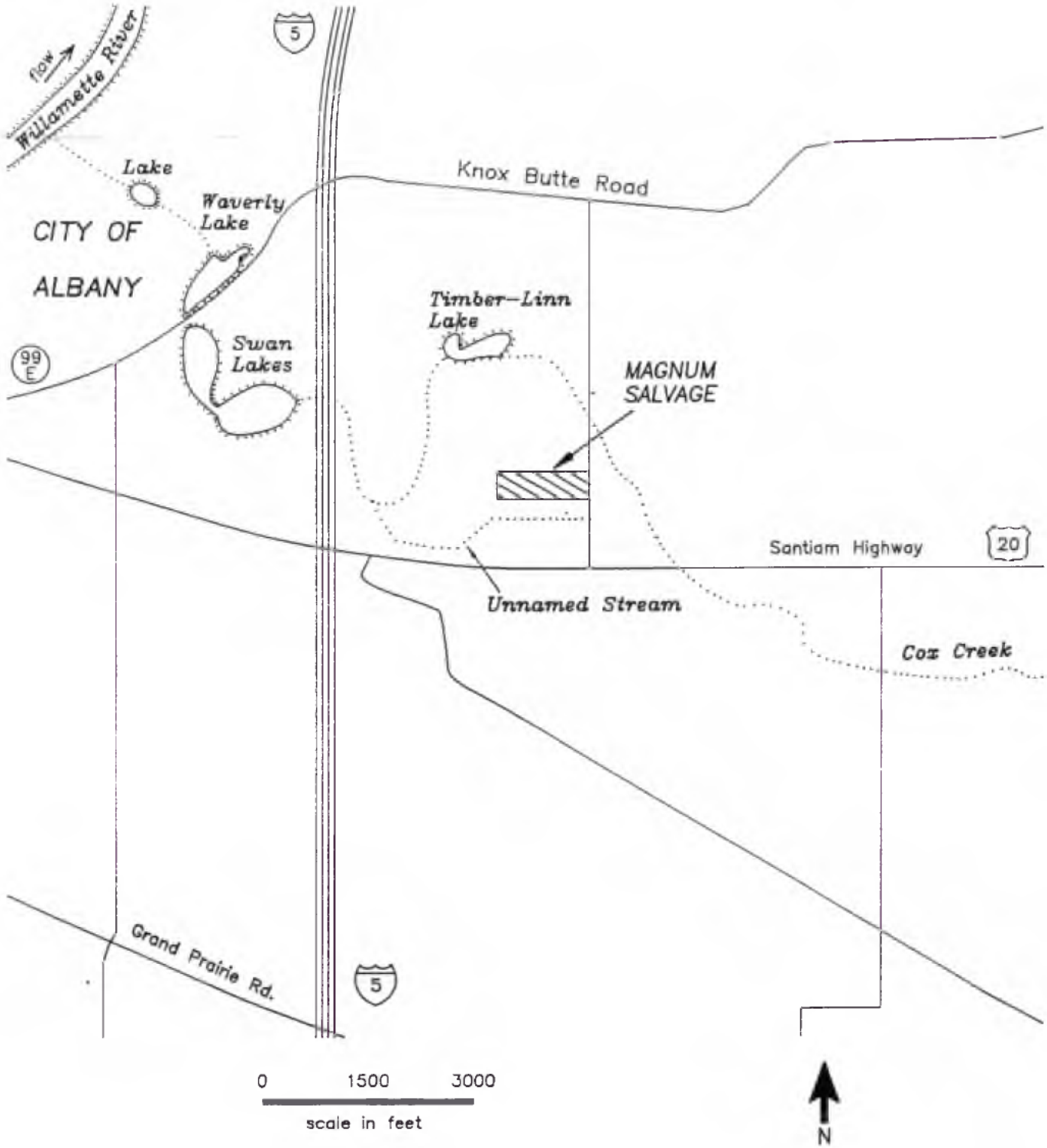
### 2.1 Site Location and Description

The Magnum Salvage/Horizon Vehicle site is located on the southeast border of the City of Albany at 1052 Goldfish Farm Road, Albany, Oregon (Figure 1). The site is within section 9, Township 11 South, Range 3 West, in Linn County, Oregon. The geographic coordinates of the site are 44°38′0.06" North latitude and 123°02′0.50" West longitude (ODEQ 1988).

Magnum Salvage is an auto dismantling facility which occupies approximately 14 acres of land and consists of one building on-site which houses an office and a garage. The site and surrounding terrain are relatively flat with a slope of less than 3 percent to the southwest (USGS 1970; ODEQ 1988). A drainage ditch is located along the southern border of the site (Figure 2). The site is fenced along the northern, southern, and eastern sides; however, the fence along the southern border is dilapidated. The western end of the property is not fenced. Wrecked cars and auto parts are stored in the yard behind the building (Figure 2). Recently, 8 to 12 inches of gravel fill was placed over the ground surface (E & E 1989a).

### 2.2 Site Operations and Waste Characteristics

Between 1947 and 1977, Mr. Burt Moss owned the site property and operated Burt's Auto Wrecking at the site (ODEQ 1988). Transformer salvaging for copper wire allegedly occurred at the site from the late 1960s to the early 1970s. Transformer oil from the salvaging operation may have been disposed of on site, and used in car engines (ODEQ 1988).



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| Job: F10-8901-24 | Waste Site: OR0222 |
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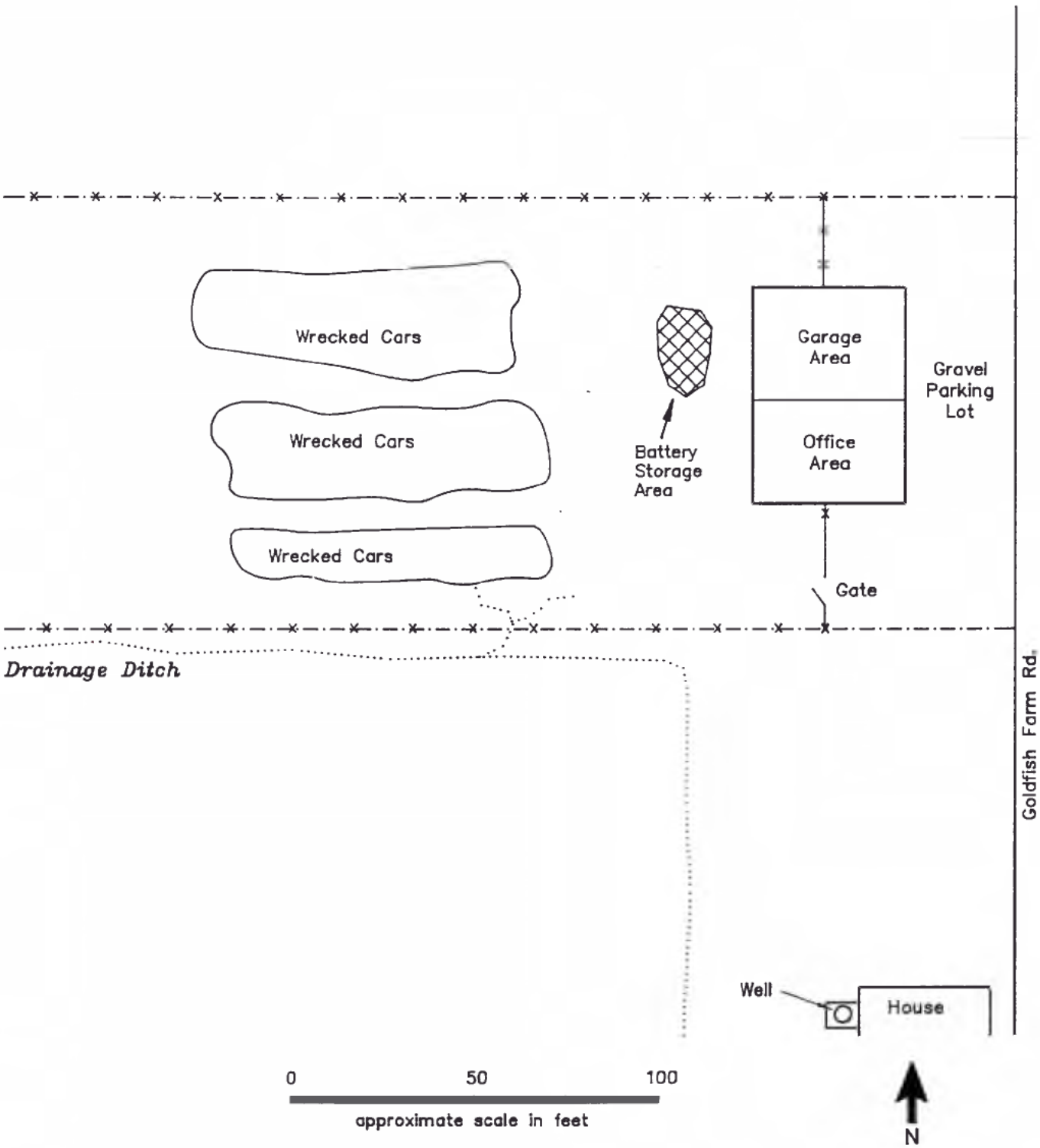
FIGURE 1
LOCATION MAP
MAGNUM SALVAGE
Albany, OR




LEGEND

—·—·— Property line

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FIGURE 2
SITE MAP
MAGNUM SALVAGE
Albany, OR

Reportedly, oil accumulated in the salvage area, which was located along the north side of the yard and situated approximately midway between the office building and the western property line (Figure 2) (ODEQ 1988). The quantity of transformer oil disposed of on-site is unknown. The potential for on-site exposure is currently low because of the 8 to 12 inches of fill that was recently applied over the site.

In 1977, Mr. Howard Price and Mr. Anderson purchased the property and began operation of A&P Wrecking (ODEQ 1988). Transformer salvaging was not performed in the A&P Wrecking operations. In 1985, the property was purchased by Ms. Roberta Hess who also used the site for salvaging purposes (ODEQ 1988). It is not known what type of salvaging occurred from 1985 to 1986.

From 1986 to 1988, the salvaging operations at the site were inactive. In July 1988, Mr. Floyd Zumwalt began the current Magnum Salvage auto dismantling business (E & E 1989a).

## 2.3 Potential Contaminant Transport Pathways/Receptors

### 2.3.1 Surface Water

The nearest surface water feature to the site is an unnamed intermittent stream located approximately 200 feet south of the site. The intermittent stream drains to Swan Lakes located approximately 1.25 miles west of the facility. Swan Lakes drain to Waverly Lake, which empties into the Willamette River via a short stream (USGS 1970). There are no drinking water uptakes along the Willamette River within 3 miles downstream of the site (ODWR 1989a). Several irrigation uptakes that irrigate approximately 100 acres exist within 3 miles downstream of the site (ODWR 1989a). The Santiam River, located 8 miles east of the site, is the primary source of drinking water for the City of Albany serving a population of approximately 27,000.

Local drainage at the Magnum Salvage site is to the south. Surface runoff collects into a drainage ditch which bounds the southern site perimeter. The drainage ditch empties into the unnamed intermittent stream 200 feet south of the site. The site slope is less than 3 percent to the southwest (USGS 1970).

### 2.3.2 Regional Groundwater

The principal geologic units in the site area are Tertiary age, consolidated volcanic or marine rock and Quaternary age, unconsolidated stream sediment. The Tertiary rocks include the Siletz River Volcanics; marine-deposited sandstone, siltstone and shales of the Tyee, Spencer, and Eugene Formations; and intrusive igneous rocks. The Tertiary rocks comprise the upland that surround the Albany area and underlie the alluvial sediments that cover the valley floor (Frank and Johnson 1974).

The unconsolidated alluvial deposits in the Albany area include older and younger alluvium deposited near and along the modern course of the Willamette River. The older alluvial deposits are composed of interconnected lenses of volcanic sand and gravel, interspersed with

fine sands and clay. The older alluvium is encountered at depths ranging from 35 to 145 feet below ground surface (bgs) and has a maximum thickness of approximately 200 feet (Frank and Johnson 1974).

The younger alluvial deposits represent floodplain sediments of the Willamette River and other minor streams. The younger alluvium is comprised of cobbles and coarse gravel with local deposits of sand and some silt. The thickness of the younger alluvium varies from a minimum of 20 feet to a maximum 45 feet (Frank and Johnson 1974).

The principal sources of groundwater in the Albany area are the older and young alluvial deposits. Zones of gravel and sand in these units yield moderate to large quantities of water to wells. The alluvium is considered the only source of groundwater suitable for large scale development. Tertiary rocks in the area yield only small to moderate quantities of water (Frank and Johnson 1974).

Groundwater in the area generally occurs under unconfined conditions. The general direction of groundwater movement in the site vicinity is west toward the Willamette River. Precipitation is the primary source of recharge for groundwater in the Albany area (Frank 1974). Groundwater is used both for drinking by a population of approximately 2,200 and for irrigation of approximately 700 acres within a 3-mile radius of the site (ODWR 1989b).

The site is underlain with somewhat poorly drained, nearly level silty clay loam soils (SCS 1987). Underlying the soil layer are alluvium deposits, known as Linn gravels, which are mainly pebble gravels with moderate amounts of sand and some clay. Linn gravels are widespread east of Albany, but probably are not more than 10 to 20 feet thick (Allison 1953).

Most of the high-yield wells in the Albany area produce water from alluvial sand and gravel aquifers (Frank and Johnson 1972). According to well log reports in the vicinity of the site, shallow sand and gravel aquifers are encountered at 7 to 21 feet bgs (ODWR 1989b).

## 3.0 PROJECT DESCRIPTION

### 3.1 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 for the Magnum Salvage SSI were defined:

1. Determine if the groundwater underlying the site is contaminated and poses a threat to the local domestic supply.

2. Evaluate surface runoff routes for the presence of contamination.

3. Evaluate soils beneath the current fill layer to determine the presence of contamination.

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

- o Four groundwater samples were collected from nearby domestic wells.
- o Three sediment samples were collected from the on-site runoff route and from the drainage ditch upstream and downstream of the site.
- o Thirty-eight surface soil samples were collected from grids set up over the former battery storage and transformer salvage areas.
- o One soil sample was collected from an off-site background location.

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

The data types, their uses, and associated analytical quality requirements necessary to satisfy the above objectives are summarized in Table 1. Specific methods by which the necessary data was collected are described below.

## 4.0 SAMPLING PROGRAM

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

A total of 48 samples (including QA/QC samples) were collected to determine the existence of on-site contamination and off-site contaminant migration (Table 2). Thirty-eight (including QA/QC samples) soil samples were collected from two on-site grids over the former battery storage area and former transformer salvage area (Figure 3). Samples were collected below the fill material at depths varying from 8 to 12 inches bgs. The battery storage grid consisted of sixteen 25-foot by 25-foot sections within a 100-foot by 100-foot area. The transformer salvage grid consisted of twenty 25-foot by 25-foot sections, contained in a 100-foot by 125-foot area (Figure 3). One soil sample was obtained from the center of each of the 36 grid squares. A sample was collected from an off-site location north of the facility to establish background conditions for the site.

A total of three sediment samples were collected during the investigation (Figure 3). One sample was collected from an on-site runoff route along the southern portion of the site. The remaining two sediment samples were collected at upstream and downstream locations along the drainage ditch south of the property and in conjunction with

**Table 1**

**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 characterization of domestic groundwater | o HRS score evaluation<br>o Public health evaluation<br>o Environmental impact evaluation | Copper, lead, zinc, PCBs | ppb (organics)<br>ppm (inorganics) | FASP/CLP[4]<br>CLP |
| 2 | Chemical characterization of on-site runoff and drainage ditch sediment | o HRS score evaluation<br>o Public health evaluation<br>o Environmental impact evaluation | Copper, lead, zinc, PCBs | ppb (organics)<br>ppm (inorganics) | FASP/CLP<br>CLP |
| 3 | Chemical characterization of surface soils | o HRS score evaluation<br>o Source attribution | Copper, lead, zinc, PCBs | ppb (organics)<br>ppm (inorganics) | FASP/CLP<br>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 EPA Compendium of Superfund Field Operations Method, Office of Emergency and Remedial Response, EPA/540/P-87/001 (EPA 1987a).

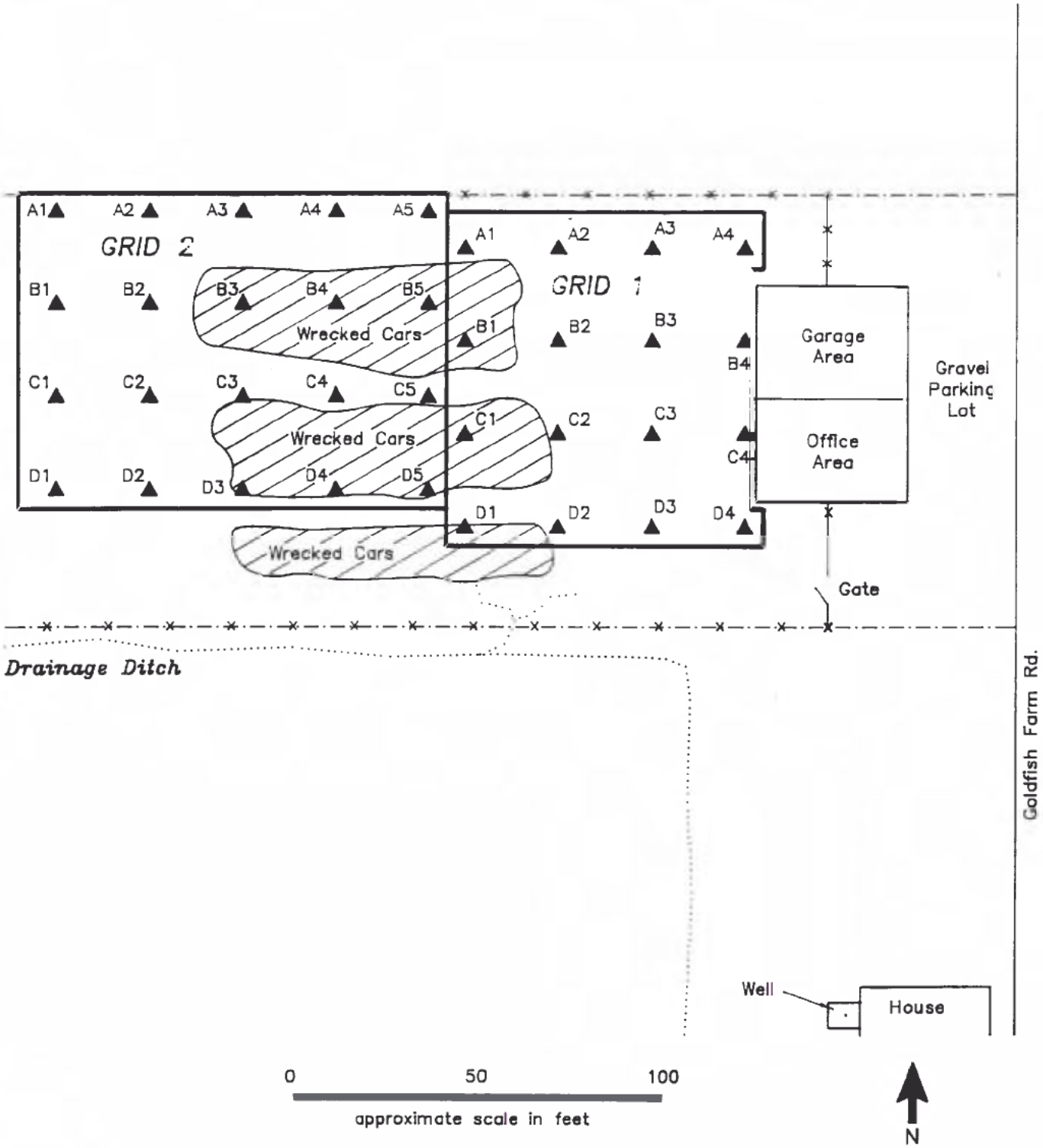
4. Ten percent of FASP samples were submitted to a CLP Laboratory for confirmation analysis. QA/QC samples were also submitted to a CLP Laboratory.

**Table 2**

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

| Sample Matrix | Number of Samples Collected | Sample Type(s) | Sample Location(s) | Rationale |
|---|---|---|---|---|
| Groundwater | 4* | Grab (unfiltered) | 3-Domestic wells (downgradient)<br>1-Domestic well (upgradient) | Determine if potential on-site contamination has affected downgradient private wells. |
| Soil | 37 | Grab | 36-Grid samples<br>1-Background soil | Determine potential contaminant levels in on-site soils. |
| Sediment | 3 | Composite | 1-Upstream drainage ditch<br>1-Downstream drainage ditch<br>1-On-site runoff | Determine if potential on-site contamination has impacted nearby surface water. |
| Quality Control** | 1 | | 1-Transfer blank | Indicates bottle contamination prior to sample collection. |
| | 1 | | 1-Method blank | Indicates cross-contamination resulting from sampling implements. |
| | 1 | | 1-Field duplicate (soil) | Indicates degree of variance in analytes within vicinity of original sample volume. |
| | 1 | | 1-Field replicate (soil) | Indicates sample matrix homogeneity within actual sample volume. |
| TOTAL | 48 | | | |

* Matrix spike/matrix duplicate water samples were collected from one of these three downgradient wells.
** See Section 6.1 for definitions of types of Quality Control samples anticipated.

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▲ Soil sample

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FIGURE 3
SAMPLE LOCATION MAP
MAGNUM SALVAGE
Albany, OR

surface runoff from the site. All sediment samples were submitted to a CLP laboratory for analysis of Target Compound List (TCL) metals, semivolatile organics, and pesticides (Figure 4).

Four groundwater samples were collected from nearby domestic wells located within a 1/4-mile radius of the site (Figure 5). All groundwater samples were submitted to a CLP laboratory for analysis of TCL metals, semivolatile organics, and pesticides.

## 4.2 Sampling Methods

Media-specific sampling procedures used during the Magnum Salvage SSI are described in the project work plan (E & E 1989b). The procedures used are consistent with methodologies described in EPA's Compendium of Superfund Field Operations Methods (EPA 1987a) and in Sections 1.4 (Sample Types), 1.5 (Sampling Plan), 2.1 (Soils), and 2.3 (Sediments) of the EPA Characterization of Hazardous Waste Sites - A Methods Manual - Volume II, Available Sampling Methods, Second Edition (EPA 1984).

### 4.2.1 Groundwater Samples

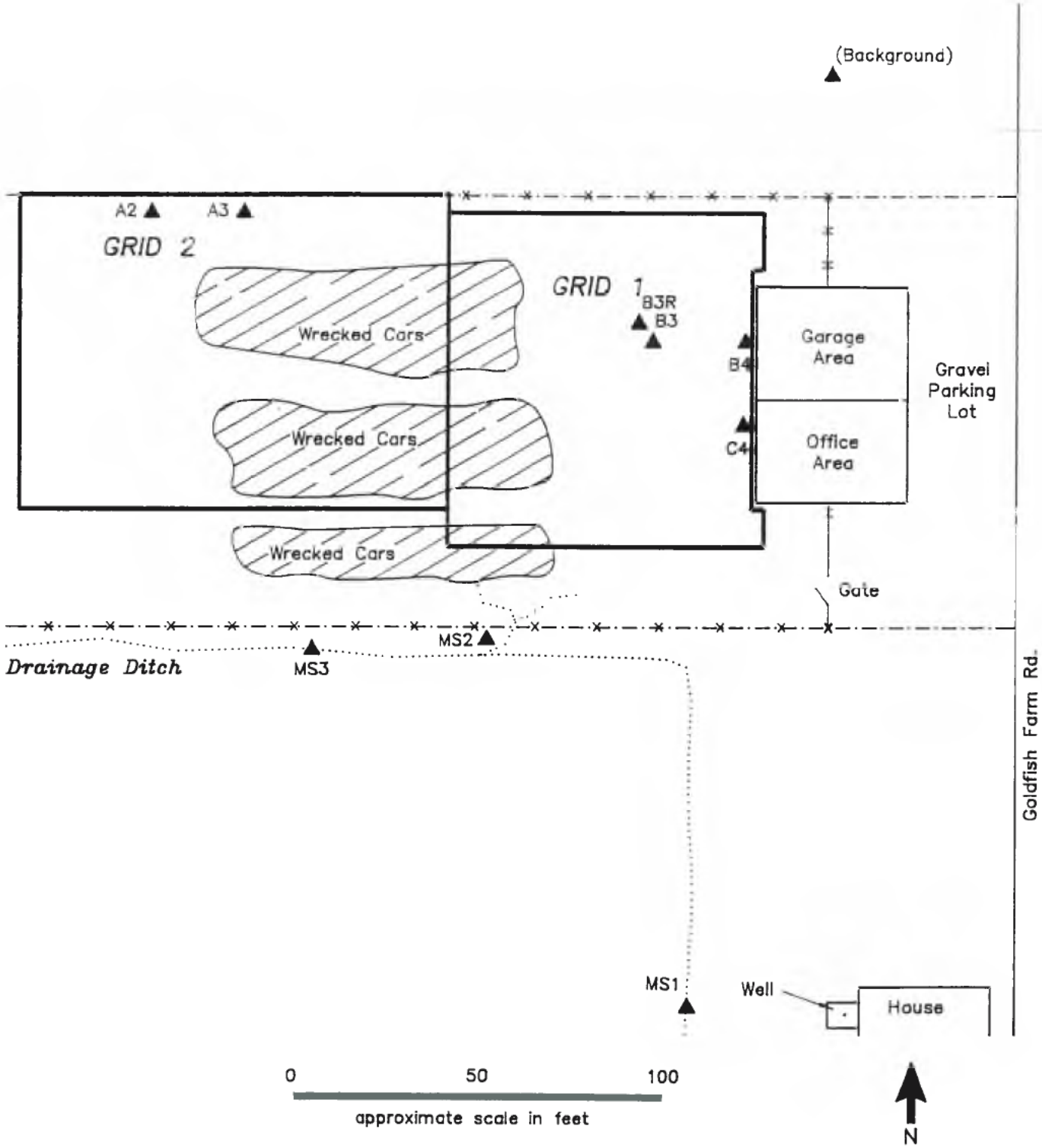
Groundwater samples were collected from one upgradient and three sidegradient domestic wells. Prior to sample collection, each domestic well was purged for a minimum of 15 minutes. Purge water was monitored for pH, conductivity, and temperature. Once there was less than a 10 percent variance in parameter measurements after four consecutive readings, a sample was collected from the spigot. All samples were collected prior to holding tanks and/or filter systems. All well sampling data was recorded on E & E well sampling data sheets (Appendix F).

### 4.2.2 Soil Samples

Soil grab samples were collected from each of the 36 grid sections and a background location. Pick axes and shovels were used to remove the current 8- to 12-inch fill layer at each sample location. Following the removal of the gravel layer, a stainless steel spoon was used to collect the sample. Each sample was analyzed for PCBs by the E & E Field Analytical Support Project (FASP). Five on-site soil grid samples were split and submitted to a CLP laboratory for confirmatory analysis of inorganic and organic analytes. A background soil sample was also collected for CLP analysis.

### 4.2.3 Sediment Samples

Sediment samples were collected from the on-site runoff ditch and nearby drainage ditch in a downgradient to upgradient fashion. Each sample consisted of three aliquots collected every 2 feet along a 6-foot line. Stainless steel spoons were used to collect the material from a depth of 2 inches bgs. The material was homogenized in stainless steel bowls (for inorganic and organic analysis).

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▲ Soil/sediment sample

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FIGURE 4
SAMPLE LOCATION MAP/CLP
MAGNUM SALVAGE
Albany, OR

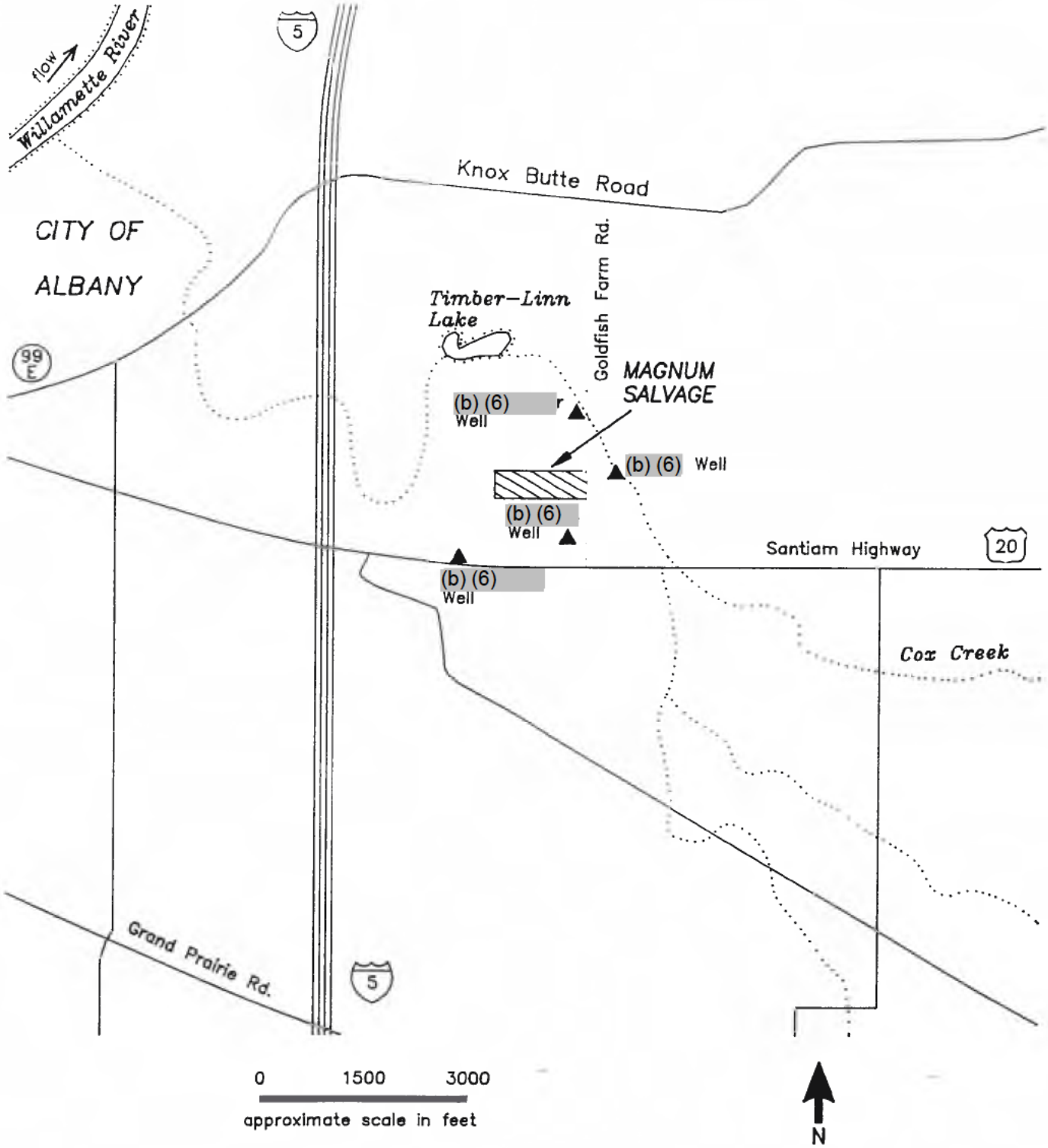


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FIGURE 5
OFF-SITE DOMESTIC WELL
LOCATIONS
MAGNUM SALVAGE
Albany, OR

### 4.2.4 QC Samples

Quality assurance samples included one soil duplicate, one soil replicate, a transfer blank, a method blank, and both soil and water matrix spike/matrix spike duplicates (MS/MSD). The transfer blank was prepared in the field prior to sampling.

## 4.3 Sample Analytical and Handling Requirements

Sample analytical requirements for the Magnum Salvage SSI are summarized in Table 3. Included are descriptions of requested analytes, the analytical program(s) used, sample-preservation techniques, and maximum sample holding times. Analytical methods and bottle requirements for samples collected during this investigation are described in the Magnum Salvage Work Plan (E & E 1989b).

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). Samples analyzed using E & E's mobile or base support laboratory were handled and documented in accordance with the Magnum Salvage Work Plan (E & E 1989b). Sample packaging conformed with applicable Department of Transportation Regulations (49 CFR 171-177) and/or International Air Transport Association guidelines (International Air Transport Association 1987) as specified in the Magnum Salvage Work Plan (E & E 1989b). 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 3. Shipment was via an overnight delivery service or hand delivery by an E & E field team member.

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 1989b).

Following completion of the field work, all equipment (including support vehicles) 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 ANALYTICAL REQUIREMENTS**

| Sample Matrix | Number of Samples Collected | Sample Location(s) | Analytical Requirements[1] | Analytical Program[2] | Preservation Technique | Maximum Holding Time |
|---|---|---|---|---|---|---|
| Groundwater | 4 | Domestic wells | Inorganics<br>BNA<br>Pesticides/PCBs | CLP-RAS | Inorganics-<br>$HNO_3$ < 2 pH<br>BNA and<br>Pesticides-None | 6 months<br><br>7 days |
| Soil | 36 | Transformer salvage area grid (20)<br>Battery storage area grid (16) | PCBs | FASP | None | 7 days |
| Soil | 6 | Split samples from grid areas (5)<br>Background sample (1) | Inorganics<br>BNA<br>Pesticides/PCBs | CLP-RAS | Inorganics-<br>$HNO_3$ < 2 pH<br>BNA and<br>Pesticides-None | 6 months<br><br>7 days |
| Sediment | 3 | Drainage ditch (2)<br>On-site runoff (1) | Inorganics<br>BNA<br>Pesticides/PCBs | CLP-RAS | Inorganics-<br>$HNO_3$ < 2 pH<br>BNA and<br>Pesticides-None | 6 months<br><br>7 days |
| QA/QC | 1 | Transfer blank (water) | Inorganics<br>BNA<br>Pesticides/PCBs | CLP-RAS | Inorganics-<br>$HNO_3$ < 2 pH<br>BNA and<br>Pesticides-None | 6 months<br><br>7 days |
| | 1 | Method blank (water) | Inorganics<br>BNA<br>Pesticides/PCBs | CLP-RAS | Inorganics-<br>$HNO_3$ < 2 pH<br>BNA and<br>Pesticides-None | 6 months<br><br>7 days |
| | 1 | Field duplicate (soil) | Inorganics<br>BNA<br>Pesticides/PCBs | CLP-RAS<br><br>FASP/CLP | Inorganics-<br>$HNO_3$ < 2 pH<br>BNA and<br>Pesticides-None | 6 months<br><br>7 days |
| | 1 | Field replicate (soil) | Inorganics<br>BNA<br>Pesticides/PCBs | CLP-RAS<br><br>FASP/CLP | Inorganics-<br>$HNO_3$ < 2 pH<br>BNA and<br>Pesticides-None | 6 months<br><br>7 days |

1. BNA - EPA TCL Base/Neutral/Acid extractable compounds (see Appendix A)
   Inorganics - EPA TCL Inorganics (see Appendix A)
   Pesticides/PCBs - EPA TCL Pesticides/PCB compounds (see Appendix A)
2. CLP RAS - Contract Laboratory Program Routine Analytical Services
   FASP - Field Analytical Support Project

## 5.0 SAMPLE RESULTS AND DISCUSSION

The results of this sampling program include FASP data for PCB analysis of on-site soil samples, CLP data for PCBs to confirm FASP analytical results, and TCL data for inorganic, base/neutral/acid (BNA) extractable compounds (including pesticides and PCBs), and tentatively identified compounds (TIC) for off-site sediment, groundwater, and background samples. The data are presented by sample matrix (i.e., groundwater, soil, etc.) in tabular form throughout this section. A complete listing of the TCL is included in Appendix A. Quality assurance memoranda for all data are included in Appendix D and the EPA Site Inspection Form (2070-13) is included in Appendix E. Photo Documentation is included in Appendix C.

For the purposes of this report in accordance with EPA Region 10 preremedial program criteria, "significant" concentrations are defined as concentrations at least five times greater than those detected in the background sample for each respective analyte or at least three times greater than the laboratory detection limit if the analyte was undetected in the background sample.

### 5.1 PCB Results for On-Site Soil Samples

**FASP:** The PCB analyses of the on-site soil samples are summarized in Table 4. PCBs were not detected in the background sample (BKG) submitted to the CLP laboratory. A background sample was not submitted to the FASP. Aroclor 1248 was detected at a concentration below significant levels in one sample (SG1-D1, 2.4 mg/kg). Aroclor 1254 was detected in two samples at significant levels (SG1-C4, 3.8 mg/kg and SG2-D5, 13.0 mg/kg). Aroclor 1260 was detected at significant levels in 11 of the samples at concentrations ranging from 3.5 mg/kg (SG1-D3) to 380.0 mg/kg (SG1-A2). The Toxic Substances Control Act (TSCA) guidelines for cleanup of PCB contaminated soil in a residential/commercial nonrestricted access area is 10 mg/kg.

**CLP:** The analytical results for PCB analysis from on-site soil samples submitted to the CLP are presented in Table 5. Aroclor 1254 was detected in sample SG1-C4 at an estimated concentration of 1.7 mg/kg. Aroclor 1260 was detected in four of seven samples submitted at estimated concentrations ranging from 0.6 mg/kg (SG1-B4) to 5.2 mg/kg (SG1-B3D). All of the estimated concentrations of PCBs detected by the FASP laboratory were confirmed by CLP laboratory analysis (Table 6). All identifications of Aroclors made by the FASP laboratory were confirmed in those samples that underwent CLP analysis. The estimated concentrations of Aroclors reported by the CLP laboratory were approximately one-half of the estimated concentrations reported by the FASP laboratory. All CLP results were flagged as estimated as holding times exceeded quality control limits; however, the extended CLP holding times probably had little effect on the CLP concentrations reported for PCBs. The differences between FASP and CLP results for quantitation of on-site PCBs are not significant, and the lower CLP results will not affect recommendations made regarding the site. Also, the trends for concentration in relationship to sample location were confirmatory.

Table 4

**SAMPLE RESULTS**
**POLYCHLORINATED BIPHENYL FASP ANALYSIS**
(mg/kg)

| | Compound | | | |
|---|---|---|---|---|
| Sample No. | A1242 | A1248 | A1254 | A1260 |
| SG1-A1 | 0.87 UF | 0.87 UF | 0.87 UF | **10 F** |
| SG1-A2 | 0.77 UF | 0.77 UF | 0.77 UF | **380 F** |
| SG1-A3 | 0.68 UF | 0.68 UF | 0.68 UF | 0.85 F |
| SG1-A4 | 0.91 UF | 0.91 UF | 0.91 UF | Trace |
| SG1-B1 | 4.3 UF | 4.3 UF | 4.3 UF | **7.6 F** |
| SG1-B2 | 0.85 UF | 0.85 UF | 0.85 UF | **14 F** |
| SG1-B3 | 0.77 UF | 0.77 UF | 0.77 UF | **9.0 F** |
| SG1-B3D | 0.78 UF | 0.78 UF | 0.78 UF | **9.9 F** |
| SG1-B3R | 0.89 UF | 0.89 UF | 0.89 UF | **8.0 F** |
| SG1-B4 | 0.78 UF | 0.78 UF | 0.78 UF | 1.2 F |
| SG1-C1 | 0.75 UF | 0.75 UF | 0.75 UF | **8.0 F** |
| SG1-C2 | 0.90 UF | 0.90 UF | 0.90 UF | Trace |
| SG1-C3 | 0.70 UF | 0.70 UF | 0.70 UF | 1.8 F |
| SG1-C4 | 0.83 UF | 0.83 UF | **3.8 F** | 0.83 UF |
| SG1-D1 | 0.69 UF | 2.4 F | 0.69 UF | 1.5 F |
| SG1-D2 | 0.70 UF | 0.70 UF | 0.70 UF | 0.70 UF |
| SG1-D3 | 0.77 UF | 0.77 UF | 0.77 UF | **3.5 F** |
| SG1-D4 | 0.72 UF | 0.72 UF | 0.77 UF | 1.5 F |
| SG2-A1 | 0.95 UF | 0.95 UF | 0.95 UF | 0.95 UF |
| SG2-A2 | 0.94 UF | 0.94 UF | 0.94 UF | 0.94 UF |
| SG2-A3 | 0.80 UF | 0.80 UF | 0.80 UF | 0.80 UF |
| SG2-A4 | 0.93 UF | 0.93 UF | 0.93 UF | 0.93 UF |
| SG2-A5 | 0.95 UF | 0.95 UF | 0.95 UF | 0.95 UF |
| SG2-B1 | 0.90 UF | 0.90 UF | 0.90 UF | 0.90 UF |
| SG2-B2 | 0.90 UF | 0.90 UF | 0.90 UF | 0.90 UF |
| SG2-B3 | 0.88 UF | 0.88 UF | 0.88 UF | 0.88 UF |
| SG2-B4 | 0.90 UF | 0.90 UF | 0.90 UF | Trace |
| SG2-B5 | 0.90 UF | 0.90 UF | 0.90 UF | 0.90 UF |
| SG2-C1 | 0.88 UF | 0.88 UF | 0.88 UF | 0.88 UF |
| SG2-C2 | 0.88 UF | 0.88 UF | 0.88 UF | 0.88 UF |
| SG2-C3 | 0.89 UF | 0.89 UF | 0.89 UF | 0.89 UF |
| SG2-C4 | 0.82 UF | 0.82 UF | 0.82 UF | 0.82 UF |
| SG2-C5 | 0.95 UF | 0.95 UF | 0.95 UF | **38 F** |

**Table 4 (Cont.)**

| Sample No. | Compound | | | |
|---|---|---|---|---|
| | A1242 | A1248 | A1254 | A1260 |
| SG2-D1 | 0.93 UF | 0.93 UF | 0.93 UF | 0.93 UF |
| SG2-D2 | 0.94 UF | 0.94 UF | 0.94 UF | 0.94 UF |
| SG2-D3 | 0.95 UF | 0.95 UF | 0.95 UF | Trace |
| SG2-D4 | 0.86 UF | 0.86 UF | 0.86 UF | Trace |
| SG2-D5 | 0.83 UF | 0.83 UF | **13 F** | 0.83 UF |
| BKD[1] | | | | |

U - The material was analyzed for, but was not detected. The associated numerical value is an instrumental detection limit, adjusted for sample weight, extract volume, and sample dilution.

F - Data has been generated using FASP methodologies. Analytes are tentatively identified and concentrations are quantitative estimates.

Trace - Compound was present at a detectable level, but was below the quantitation limit.

Bold face print indicates significant concentrations.

1. A background sample was not submitted to FASP. The CLP background sample was used for comparison.

## 5.2 Organic Results for On-Site Soil Samples (CLP)

No TCL organic analytes were detected with the exception of PCBs at significant levels in the on-site soil samples. However, butylbenzylphthalate and Di-n-octyl phthalate were detected in the background sample at levels below the contract required detection limit. Bis(2-ethylhexyl)phthalate and 2-methylnaphthalene were detected in on-site soil samples at levels below the contract required detection limit. There were a maximum of 21 TIC compounds detected in the soil samples which included primarily unknown compounds and unknown hydrocarbons with a maximum concentrations of 4,900 µg/kg.

## 5.3 Inorganic Results for On-Site Soil Samples (CLP)

Inorganic results for on-site soil samples are summarized in Table 7. A total of 19 elements were detected in the on-site soil samples. The analytes detected at significant levels compared to the background sample were antimony, arsenic, cadmium, copper, lead, silver and zinc. These analytes were detected in samples SG1-B3 and SG1-B4 from the area previously identified as the battery storage area.

**Table 5**

**SUMMARY OF POLYCHLORINATED BIPHENYL DETECTED IN ON-SITE SOIL SAMPLES (CLP)**
(mg/kg)

| Compound | Background | SG1-B3 | SG1-B3D | SG1-B3R | SG1-B4 | SG1-C4 | SG2-A2 | SG2-A3 |
|---|---|---|---|---|---|---|---|---|
| Aroclor-1242 | 0.098 U | 0.430 U | 0.430 U | 0.420 U | 0.098 U | 0.490 U | 0.089 U | 0.089 U |
| Arcolor-1248 | 0.098 U | 0.430 U | 0.430 U | 0.420 U | 0.098 U | 0.490 U | 0.089 U | 0.089 U |
| Aroclor-1254 | 0.200 U | 0.850 U | 0.870 U | 0.840 U | 0.200 U | **1.70 J** | 0.180 U | 0.170 U |
| Aroclor-1260 | 0.200 U | **4.60 J** | **5.20 J** | **3.10 J** | **0.600 J** | 0.990 UJ | 0.180 U | 0.170 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.

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

Bold face print indicates significant concentrations.

Table 6

COMPARISON OF FASP AND CLP PCB RRESULTS
ON-SITE SOIL SAMPLES
(mg/kg)

| | Compound (Laboratory) | | | |
|---|---|---|---|---|
| Sample No. | A1254 (CLP) | A1254 (FASP) | A1260 (CLP) | A1260 (FASP) |
| SG1-B3 | 0.85 U | 0.77 UF | 4.6 J | 9.0 F |
| SG1-B3D | 0.87 U | 0.78 UF | 5.2 J | 9.9 F |
| SG1-B3R | 0.84 U | 0.89 UF | 3.1 J | 8.0 F |
| SG1-B4 | 0.20 U | 0.78 UF | 0.6 J | 1.2 F |
| SG1-C4 | 1.7 J | 3.8 F | 0.99 UJ | 0.83 UF |
| SG2-A2 | 0.18 U | 0.94 UF | 0.18 U | 0.94 UF |
| SG2-A3 | 0.17 U | 0.80 UF | 0.17 U | 0.80 UF |

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.

## 5.4 Organic Results for Groundwater Samples and Sediment Samples (CLP)

There were no TCL organic compounds detected in the groundwater samples from nearby domestic wells. No organic compounds were detected in the sediment samples collected from the off site drainage route. There were no TIC compounds detected in groundwater samples. Two TIC compounds were detected in one of the sediment samples (MS3) including an unknown hydrocarbon (1200.0 µg/kg).

## 5.5 Inorganic Results from Groundwater and Sediment Samples (CLP)

Table 8 summarizes the inorganics results from groundwater samples and Table 9 summarizes the inorganic results for sediment samples. The (b) (6) well is considered upgradient of the site and serves as the background sample for the groundwater samples. Sample MS1 is considered upgradient of the site and serves as the background sample for the sediment samples.

A total of eight TCL inorganic analytes were detected in the groundwater samples. None of these were detected at significant levels above background.

**Table 7**

**SUMMARY OF INORGANIC ANALYTES DETECTED IN SOIL SAMPLES (CLP)**
(mg/kg)

| Analyte | Conc. (Background) | SG1-B3 | SG1-B3D Replicate | SG1-B3R Duplicate | SG1-B4 | SG1-C4 | SG2-A2 | SG2-A3 |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 31,900 | 13,500 | 11,600 | 11,700 | 22,900 | 33,200 | 21,400 | 18,300 |
| Antimony | 6.1 UJ | 10.4 J | 7.7 J | 5.2 J | **23.0 J** | 5.9 UJ | 5.4 UJ | 5.3 UJ |
| Arsenic | 3.6 UJ | 7.4 UJ | **10.7 J** | 9.2 UJ | 7.5 UJ | 6.5 UJ | 4.9 UJ | 4.8 UJ |
| Barium | 233 | 472 | 317 | 470 | 805 | 235 | 94.8 | 84.6 |
| Beryllium | 1.3 UJ | 0.60 UJ | 0.77 UJ | 0.68 UJ | 0.89 UJ | 1.4 UJ | 0.88 UJ | 0.72 UJ |
| Cadmium | 0.79 U | **6.6** | **3.4** | **4.0** | **22.7** | **2.1** | 0.70 U | 0.68 U |
| Calcium | 4,250 | 7,310 | 5,540 | 5,880 | 12,000 | 4,560 | 4,820 | 4,780 |
| Chromium | 37.6 | 42.0 | 29.2 | 32.0 | 60.6 | 32.8 | 17.6 | 15.5 |
| Cobalt | 20.9 | 15.1 | 13.5 | 13.7 | 16.4 | 22.2 | 10.3 J | 10.2 J |
| Copper | 29.9 | **574** | **468** | **626** | **2,630** | 84.4 | 28.0 | 21.8 |
| Iron | 39,700 | 84,000 | 65,100 | 65,200 | 49,600 | 37,300 | 29,500 | 28,700 |
| Lead | 27.6 | **469** | **441** | **553** | **1,120** | 116 | 6.8 | 4.8 |
| Magnesium | 4,890 | 5,530 | 4,910 | 4,640 | 4,570 | 4,340 | 4,680 | 5,060 |
| Manganese | 983 | 589 | 535 | 515 | 737 | 1,180 | 534 | 504 |
| Mercury | 0.13 U | 0.11 U | 0.11 U | 0.11 U | 0.13 U | 0.13 U | 0.12 U | 0.11 U |
| Nickel | 21.3 | 53.5 | 45.6 | 53.0 | 50.8 | 22.0 | 13.6 | 12.9 |
| Potassium | 2,580 | 782 J | 749 J | 740 J | 1,750 | 2,470 | 1,130 J | 936 J |
| Selenium | 0.32 U | 0.42 J | 0.31 J | 0.31 J | 0.32 U | 0.30 U | 0.28 U | 0.27 U |
| Silver | 0.63 UJ | 1.0 UJ | 0.52 UJ | 1.3 UJ | **5.6** | 0.61 UJ | 0.59 UJ | 0.54 UJ |
| Sodium | 225 J | 678 J | 620 J | 565 J | 983 J | 244 J | 404 J | 429 J |
| Thallium | 0.45 U | 0.42 J | 0.37 U | 0.36 U | 0.46 U | 0.43 U | 0.39 U | 0.39 U |
| Vanadium | 119 | 89.5 | 82.1 | 78.7 | 93.2 | 107 | 72.0 | 66.1 |
| Zinc | 94.7 | **2,510** | 407 | **1,420** | **4,400** | 243 | 65.2 | 55.1 |

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.

Bold face print indicates significant concentrations.

**Table 8**

**SUMMARY OF INORGANIC ANALYTES DETECTED IN GROUNDWATER SAMPLES (CLP)**
(μg/L)

| Analyte | (b) (6) (Background) | | (b) (6) | | (b) (6) | | (b) (6) | | TB (Transfer Blank) | | RB (Rinsate Blank) | | Drinking Water Standards |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 120 | UJ | 44.6 | UJ | 123 | UJ | 112 | UJ | 66.6 | UJ | 72.9 | UJ | N/A |
| Antimony | 23.3 | U | 23.3 | U | 23.3 | U | 23.3 | U | 23.3 | U | 23.3 | UJ | N/A |
| Arsenic | 4.6 | UJ | 1.5 | UJ | 1.5 | UJ | 1.5 | UJ | 2.0 | UJ | 1.5 | U | 50.0[1] |
| Barium | 27.9 | J | 14.8 | U | 14.8 | U | 14.8 | U | 14.8 | U | 14.8 | U | 1,000.0[1] |
| Beryllium | 1.2 | UJ | 1.2 | UJ | 1.2 | UJ | 1.2 | UJ | 1.2 | UJ | 2.2 | UJ | N/A |
| Cadmium | 3.0 | U | 3.0 | U | 3.0 | U | 3.0 | U | 3.0 | U | 3.0 | U | 10.0[1] |
| Calcium | 20,900 | | 11,400 | | 28,700 | | 23,100 | | 321 | J | 354 | J | N/A |
| Chromium | 4.9 | U | 4.9 | U | 4.9 | U | 4.9 | U | 4.9 | U | 5.9 | J | 50.0[1] |
| Cobalt | 5.9 | U | 5.9 | U | 5.9 | U | 5.9 | U | 5.9 | U | 5.9 | U | N/A |
| Copper | 5.0 | U | 5.0 | U | 5.0 | U | 5.0 | U | 5.0 | U | 5.0 | U | 1,000.0[2] |
| Iron | 6,090 | | 342 | | 262 | | 127 | | 26.4 | UJ | 37.7 | UJ | 300.0[2] |
| Lead | 1.7 | UJ | 6.4 | UJ | 1.7 | UJ | 2.2 | UJ | 0.50 | UJ | 1.5 | UJ | 50.0[1] |
| Magnesium | 9,360 | | 5,900 | | 12,100 | | 10,300 | | 153 | U | 153 | U | N/A |
| Manganese | 199 | | 116 | | 54.2 | | 5.0 | J | 3.9 | U | 3.9 | U | 50.0[2] |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 50.0[1] |
| Nickel | 20.8 | U | 20.8 | U | 20.8 | U | 20.8 | U | 20.8 | U | 20.8 | U | N/A |
| Potassium | 912 | J | 1,270 | J | 1,090 | J | 551 | U | 551 | U | 551 | U | N/A |
| Selenium | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 10.0[1] |
| Silver | 2.4 | UJ | 2.4 | UJ | 2.4 | UJ | 2.4 | UJ | 2.4 | UJ | 2.4 | UJ | 50.0[1] |
| Sodium | 13,100 | | 14,700 | | 12,000 | | 10,800 | | 523 | U | 523 | U | N/A |
| Thallium | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | U | 1.7 | U | N/A |
| Vanadium | 9.0 | U | 9.0 | U | 9.0 | U | 9.0 | U | 9.0 | U | 9.0 | U | N/A |
| Zinc | 44.7 | | 144 | | 50.6 | | 79.4 | | 8.3 | U | 8.3 | U | 5,000.0[2] |

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.

1. National Primary Drinking Water Standard.
2. National Secondary Drinking Water Standard.

**Table 9**

**SUMMARY OF INORGANIC ANALYTES DETECTED IN SEDIMENT SAMPLES**
(mg/kg)

| Analyte | MS1 (Background) | MS2 | MS3 |
|---|---|---|---|
| Aluminum | 22,400 | 31,700 | 45,100 |
| Antimony | 6.3 UJ | 6.1 UJ | 7.9 UJ |
| Arsenic | 5.3 UJ | 3.9 UJ | 4.9 UJ |
| Barium | 183 | 213 | 232 |
| Beryllium | 1.2 UJ | 1.3 UJ | 1.5 UJ |
| Cadmium | 0.81 U | 0.79 U | 1.0 U |
| Calcium | 3,090 | 4,600 | 4,980 |
| Chromium | 25.4 | 31.2 | 38.5 |
| Cobalt | 16.3 | 17.6 | 17.2 |
| Copper | 14.7 | 25.5 | 26.7 |
| Iron | 27,300 | 36,600 | 42,600 |
| Lead | 9.9 | 12.9 | 18.5 |
| Magnesium | 2,140 | 4,740 | 4,970 |
| Manganese | 772 | 822 | 617 |
| Mercury | 0.13 U | 0.13 U | 0.17 U |
| Nickel | 12.4 | 20.0 | 20.9 |
| Potassium | 749 J | 1,190 J | 1,270 J |
| Selenium | 0.32 U | 0.31 U | 0.41 UJ |
| Silver | 0.65 UJ | 0.63 UJ | 0.81 U |
| Sodium | 293 J | 303 J | 376 J |
| Thallium | 0.46 U | 0.45 U | 0.58 U |
| Vanadium | 95.7 | 103 | 120 |
| Zinc | 37.0 | 84.3 | 90.4 |

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.

A total of 15 inorganic analytes were detected in the sediment samples. There were no detected at significant levels above background.

### 5.6 Results from QA Analysis

The QA samples included a transfer blank, one equipment rinsate blank, one soil replicate, and one soil duplicate. Two inorganic analytes were detected in the blank samples: calcium and chromium (Table 8). The level of calcium detected was well below the level detected in the background sample. The concentration of chromium detected was just above the instrument detection limit. The reported concentration for the detected analytes from the replicate sample (SG1-B3/SG1-B3D) indicates reproducibility of laboratory results. The results from the duplicate sample (SG1-B3R) indicates that little variability exists between sample location SG1-B3 and SG1-B3R.

### 5.7 Discussion of Results

Based on data obtained during this site inspection, on-site soil is contaminated with low level PCBs and several inorganic analytes. Based on FASP data five of the 38 samples collected from the two on-site soil grids exceeded the TSCA guidelines for cleanup of contaminated soil in a residential/commercial nonrestricted access area (10 mg/kg). The PCB contamination appears to be confined to the area defined by grid #1, nearest the on-site building, and indicates that on-site disposal may have occurred.

Significant levels of inorganic analytes were detected in grid #1 near the area identified as the battery storage area. The analytes detected included arsenic, antimony, cadmium, copper, lead, silver, and zinc. All contaminants detected at the site appear to be attributable to past waste disposal practices of previous site operations.

No organic compounds, except PCBs in soil, were detected at significant levels in the soil, groundwater, or sediment samples collected for this investigation. Additionally, no inorganic elements were detected at significant levels above background in the off-site groundwater and sediment samples.

## 6.0 SUMMARY AND CONCLUSIONS

### 6.1 Summary

The Magnum Salvage/Horizon Auto site is an active auto dismantling facility and auto body shop located in Albany, Oregon. The site is located in an area of light commercial/industrial and residential development. The primary source of drinking water is an uptake located on the Santiam River, approximately 8 miles east and upgradient of the site. However, groundwater is used by a population of approximately 2,200 within a 3-mile radius of the site. Surface water drainage from the site eventually flows into the Willamette River and intakes on the Willamette River are used to irrigate approximately 100 acres of cropland.

Between 1960 and the early 1970s the Magnum Salvage/Horizon Auto property was allegedly used for a transformer salvaging operation. However, the primary activity at the site from 1947 to present has been auto wrecking. There was a brief period between 1986 to 1988 when the site was inactive.

Groundwater samples from domestic wells, sediment samples along the off-site runoff route, and on-site soil samples were collected. The groundwater and sediment samples were analyzed by a CLP laboratory for full TCL compounds (including PCBs). The on-site soil samples were analyzed by the Region 10 FASP laboratory for PCBs with approximately 10 percent of the samples split for confirmation analyses through a CLP laboratory.

## 6.2 Conclusions

Analytical results of surficial soil samples collected from on-site locations have significant levels of Aroclor 1254 and 1260. Several inorganic analytes were also detected in on-site soil samples including antimony, arsenic, cadmium, copper, lead, silver, and zinc. The analytes detected may be attributed to past disposal practices of dumping old transformer oil and the storage of old batteries on-site. Presently, the on-site contamination does not appear to be migrating off site.

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# Appendix A

## EPA TARGET COMPOUND LIST (TCL)

## ANALYTICAL PROTOCOLS

The standardized organic analytical methods are based on Federal Register Methods 625 (B/N/A), 608 (pesticide), 624 (VOA), 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 (VOA) | 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 (VOA) | 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 | 1600 |
| 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 | 1600 |
| 29. | 2-Chloronaphthalene | 10 | 330 |
| 30. | 2-Nitroanaline | 50 | 1600 |
| 31. | Dimethyl Phthalate | 10 | 330 |
| 32. | Acenaphthylene | 10 | 330 |
| 33. | 3-Nitroaniline | 50 | 1600 |
| 34. | Acenaphthene | 10 | 330 |
| 35. | 2,4-Dinitrophenol | 50 | 1600 |

Table A-1 (Cont.)

| | Semivolatile Compounds (VOA) | Contract Required Quantitation Limits * Low Concentration Water[c] (µg/L) | Low Concentration Soil/Sediment[d] (µg/kg) |
|---|---|---|---|
| 36. | 4-Nitrophenol | 50 | 1600 |
| 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 | 1600 |
| 44. | 4,6-Dinitro-2-Methylphenol | 50 | 1600 |
| 45. | N-Nitrosodiphenylamine | 10 | 330 |
| 46. | 4-Bromophenyl-phenylether | 10 | 330 |
| 47. | Hexachlorobenzene | 10 | 330 |
| 48. | Pentachlorophenol | 50 | 1600 |
| 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 / PCB 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 TCL Compounds are 100 times the individual Low Water CRQL.

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

Table A-1 (Cont.)

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 | 5000 |
| Chromium | 10 |
| Cobalt | 50 |
| Copper | 25 |
| Iron | 100 |
| Lead | 5 |
| Magnesium | 5000 |
| Manganese | 15 |
| Mercury | 0.2 |
| Nickel | 40 |
| Potassium | 5000 |
| Selenium | 5 |
| Silver | 10 |
| Sodium | 5000 |
| 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: MAGNUM SALVAGE
TDD: 8901-024 PAN: FOR0222SB
Case #1: 11739 SAS #1: Lab #1: DATAC
Case #2: 11739 SAS #2: Lab #2: AATS
Case #3: SAS #3: Lab #3: FASP

| Sample Description | EPA/FASP Sample Number | Lab Sample Number | Collection Date | Matrix | Analysis | Lab | Storet |
|---|---|---|---|---|---|---|---|
| TB | 89154390 | MJE125 | 04/13/89 | WATER | METALS | 1 | |
| TB | 89154390 | JD410 | 04/13/89 | WATER | BNA/Pesticide | 2 | |
| RB | 89154391 | MJE126 | 04/13/89 | WATER | METALS | 1 | |
| RB | 89154391 | JD411 | 04/13/89 | WATER | BNA/Pesticide | 2 | |
| (b) (6) | 89154392 | MJE127 | 04/13/89 | WATER | METALS | 1 | |
| (b) (6) | 89154392 | JD412 | 04/13/89 | WATER | BNA/Pesticide | 2 | |
| (b) (6) | 89154393 | MJE128 | 04/13/89 | WATER | METALS | 1 | |
| (b) (6) | 89154393 | JD413 | 04/13/89 | WATER | BNA/Pesticide | 2 | |
| (b) (6) | 89154394 | MJE129 | 04/13/89 | WATER | METALS | 1 | |
| (b) (6) | 89154394 | JD414 | 04/13/89 | WATER | BNA/Pesticide | 2 | |
| (b) (6) | 89154395 | MJE130 | 04/13/89 | WATER | METALS | 1 | |
| (b) (6) | 89154395 | JD415 | 04/13/89 | WATER | BNA/Pesticide | 2 | |
| SG2-A2 | 89154396 | MJE131 | 04/13/89 | SOIL | METALS | 1 | |
| SG2-A2 | 89154396 | JD416 | 04/13/89 | SOIL | BNA/Pesticide | 2 | |
| SG2-A3 | 89154397 | MJE132 | 04/13/89 | SOIL | METALS | 1 | |
| SG2-A3 | 89154397 | JD417 | 04/13/89 | SOIL | BNA/Pesticide | 2 | |
| SG1-B3 | 89154398 | MJE133 | 04/13/89 | SOIL | METALS | 1 | |
| SG1-B3 | 89154398 | JD418 | 04/13/89 | SOIL | BNA/Pesticide | 2 | |
| SG1-B3D | 89154399 | MJE134 | 04/13/89 | SOIL | METALS | 1 | |
| SG1-B3D | 89154399 | JD419 | 04/13/89 | SOIL | BNA/Pesticide | 2 | |
| SG1-B3R | 89154400 | MJE135 | 04/13/89 | SOIL | METALS | 1 | |
| SG1-B3R | 89154400 | JD420 | 04/13/89 | SOIL | BNA/Pesticide | 2 | |
| SG1-B4 | 89154401 | MJE136 | 04/13/89 | SOIL | METALS | 1 | |
| SG1-B4 | 89154401 | JD421 | 04/13/89 | SOIL | BNA/Pesticide | 2 | |
| SG1-C4 | 89154402 | MJD463 | 04/13/89 | SOIL | METALS | 1 | |
| SG1-C4 | 89154402 | JD838 | 04/13/89 | SOIL | BNA/Pesticide | 2 | |
| MS-1 | 89154403 | MJD464 | 04/13/89 | SOIL | METALS | 1 | |
| MS-1 | 89154403 | JD839 | 04/13/89 | SOIL | BNA/Pesticide | 2 | |
| MS-2 | 89154404 | MJD465 | 04/13/89 | SOIL | METALS | 1 | |
| MS-2 | 89154404 | JD840 | 04/13/89 | SOIL | BNA/Pesticide | 2 | |
| MS-3 | 89154405 | MJD466 | 04/13/89 | SOIL | METALS | 1 | |

ECOLOGY & ENVIRONMENT, INC.
SAMPLE SUMMARY REPORT
REGION X

Site Name: MAGNUM SALVAGE
TDD: 8901-024 PAN: FOR0222SB
Case #1: 11739 SAS #1: Lab #1: DATAC
Case #2: 11739 SAS #2: Lab #2: AATS
Case #3: SAS #3: Lab #3: FASP

| Sample Description | EPA/FASP Sample Number | Lab Sample Number | Collection Date | Matrix | Analysis | Lab | Storet |
|---|---|---|---|---|---|---|---|
| MS-3 | 89154405 | JD841 | 04/13/89 | SOIL | BNA/Pesticide | 2 | |
| BKG | 89154406 | MJD467 | 04/13/89 | SOIL | METALS | 1 | |
| BKG | 89154406 | JD842 | 04/13/89 | SOIL | BNA/Pesticide | 2 | |
| SG1-A1 | FOR0222SB001 | FOR0222SB001 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-A2 | FOR0222SB002 | FOR0222SB002 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-A3 | FOR0222SB003 | FOR0222SB003 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-A4 | FOR0222SB004 | FOR0222SB004 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-B1 | FOR0222SB005 | FOR0222SB005 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-B2 | FOR0222SB006 | FOR0222SB006 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-B3 | FOR0222SB007 | FOR0222SB007 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-B3D | FOR0222SB008 | FOR0222SB008 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-B3R | FOR0222SB009 | FOR0222SB009 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-B4 | FOR0222SB010 | FOR0222SB010 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-C1 | FOR0222SB011 | FOR0222SB011 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-C2 | FOR0222SB012 | FOR0222SB012 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-C3 | FOR0222SB013 | FOR0222SB013 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-C4 | FOR0222SB014 | FOR0222SB014 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-D1 | FOR0222SB015 | FOR0222SB015 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-D2 | FOR0222SB016 | FOR0222SB016 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-D3 | FOR0222SB017 | FOR0222SB017 | 04/13/89 | SOIL | PCB | 3 | |
| SG1-D4 | FOR0222SB018 | FOR0222SB018 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-A1 | FOR0222SB019 | FOR0222SB019 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-A2 | FOR0222SB020 | FOR0222SB020 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-A3 | FOR0222SB021 | FOR0222SB021 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-A4 | FOR0222SB022 | FOR0222SB022 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-A5 | FOR0222SB023 | FOR0222SB023 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-B1 | FOR0222SB024 | FOR0222SB024 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-B2 | FOR0222SB025 | FOR0222SB025 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-B3 | FOR0222SB026 | FOR0222SB026 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-B4 | FOR0222SB027 | FOR0222SB027 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-B5 | FOR0222SB028 | FOR0222SB028 | 04/13/89 | SOIL | PCB | 3 | |

ECOLOGY & ENVIRONMENT, INC.
SAMPLE SUMMARY REPORT
REGION X

Site Name: MAGNUM SALVAGE
TDD: 8901-024 PAN: FOR0222SB
Case #1: 11739 SAS #1: Lab #1: DATAC
Case #2: 11739 SAS #2: Lab #2: AATS
Case #3: SAS #3: Lab #3: FASP

| Sample Description | EPA/FASP Sample Number | Lab Sample Number | Collection Date | Matrix | Analysis | Lab | Storet |
|---|---|---|---|---|---|---|---|
| SG2-C1 | FOR0222SB029 | FOR0222SB029 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-C2 | FOR0222SB030 | FOR0222SB030 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-C3 | FOR0222SB031 | FOR0222SB031 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-C4 | FOR0222SB032 | FOR0222SB032 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-C5 | FOR0222SB033 | FOR0222SB033 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-D1 | FOR0222SB034 | FOR0222SB034 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-D2 | FOR0222SB035 | FOR0222SB035 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-D3 | FOR0222SB036 | FOR0222SB036 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-D4 | FOR0222SB037 | FOR0222SB037 | 04/13/89 | SOIL | PCB | 3 | |
| SG2-D5 | FOR0222SB038 | FOR0222SB038 | 04/13/89 | SOIL | PCB | 3 | |

# Appendix C

## PHOTOGRAPHIC DOCUMENTATION

**PHOTO IDENTIFICATION SHEET**

TYPE OF CAMERA: CANON AE-1/3289855

TDD and PAN NOS.: F10-8901-024; FOR0222SB

TYPE OF FILM: ED 135-20/KR 135-20

SITE NAME: Magnum Salvage/Horizon Vehicle

| Frame No. | Roll No. | Date | Time | Taken By | Witnessed By | Description of Photo |
|---|---|---|---|---|---|---|
| 1 | 1 | 02/07/89 | 1305 | M. Ader | K. Morgenstern | Overview of site facing west. |
| 2 | 1 | 02/07/89 | 1310 | M. Ader | K. Morgenstern | Overview of site facing east. |
| 3 | 1 | 02/07/89 | 1315 | M. Ader | K. Morgenstern | Overview of site facing east. |
| 4 | 1 | 02/07/89 | 1320 | M. Ader | K. Morgenstern | Drainage ditch along south side of property. |
| | | | | | | |
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C-LINE #5584
35MM PRINTS

Appendix D

QUALITY ASSURANCE MEMORANDA

AND

FASP ANALYTICAL REPORT

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

MEMORANDUM

DATE: June 8, 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 11739 (Inorganics)
Magnum Salvage/Horizon Vehicles

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
Keith Schwab, DPO, USEPA, Region VIII
Deborah Flood, HWD-SM, USEPA, Region X
Joseph Hunt, FIT-PD, E & E, Seattle
Mark Ader, FIT-PM, E & E, Seattle

The Quality Assurance review of 17 samples, Case 11739, collected from Magnum Salvage has been completed. Eleven soil and six water samples were analyzed at low level for TCL Inorganics by Datachem of Salt Lake City, Utah. The samples were numbered:

| | | |
|---|---|---|
| MJD463 (soil) | MJE126 (water) | MJE132 (soil) |
| MJD464 (soil) | MJE127 (water) | MJE133 (soil) |
| MJD465 (soil) | MJE128 (water) | MJE134 (soil) |
| MJD466 (soil) | MJE129 (water) | MJE135 (soil) |
| MJD467 (soil) | MJE130 (water) | MJE136 (soil) |
| MJD125 (water) | MJE131 (soil) | |

Samples MJE130 and MJE132 underwent matrix spike analysis and duplicate analysis.


recycled paper

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. | Hg Anal. |
|---|---|---|---|---|---|
| MJD463 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJD464 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJD465 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJD466 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJD467 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE125 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE126 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE127 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE128 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE129 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE130 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE131 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE132 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE133 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE134 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE135 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |
| MJE136 | 04/13/89 | 04/15/89 | 05/09/89 | 05/03/89 | 04/26/89 |

All samples met QC holding time criteria.

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 con-

trol 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 | Arsenic | 2.0 | 1.5 | 10 |
| CCB1 | Aluminum | 26.2 | 24.0 | 200 |
| | Beryllium | 1.5 | 1.2 | 5 |
| | Silver | 2.5 | 2.5 | 10 |
| CCB2 | Beryllium | 1.4 | 1.2 | 5 |
| CCB3 | Beryllium | 1.4 | 1.2 | 5 |
| | Iron | 20.1 | 13.3 | 100 |
| | Silver | 3.0 | 2.4 | 10 |
| CCB4 | Beryllium | 2.1 | 1.2 | 5 |
| | Iron | 19.2 | 13.3 | 100 |
| | Silver | 4.0 | 2.4 | 10 |
| PBW | Aluminum | 41.8 | 24.0 | 200 |
| | Iron | 23.1 | 13.3 | 100 |
| | Lead | 1.3 | 0.4 | 5 |
| PBS** | Aluminum | 73.7 | 24.0 | 200 |
| | Copper | 7.4 | 5.0 | 25 |
| | Iron | 37.2 | 13.3 | 100 |
| | Lead | 0.67 | 0.4 | 5 |

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

** The concentration values were transcribed from the raw data; therefore, these results were reported as µg/L.

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 RPD values were within ± the CRDL for water matrix or ± two times the CRDL for soil matrix.

9) Spiked Sample Analysis

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

| Sample | Matrix | Element | % Recovery | QC Limits |
|---|---|---|---|---|
| MJE132 | Soil | Antimony | 36.5 | 75-125 |
| MJE132 | Soil | Arsenic | 47.6 | 75-125 |

All positive results for the compounds listed above were flagged as estimated (J). For percent recoveries between 30-74 percent, all sample results below IDL were flagged as estimated quantitation limit (UJ).

10) ICP Serial Dilution

The Percent Difference values (%D) for ICP serial dilution analysis were within the QC limits of 10 percent for all parameters.

11) Furnace AA

All furnace AA results met QC criteria.

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 |
|---|---|---|---|---|
| MJE135 | Soil | Arsenic | 0.992 | 0.995 - 1.0 |

The reported concentration for this element in sample MJE135 was flagged as estimated (J or UJ).

12) Mercury Analysis

All mercury analyses met QC criteria.

13) Sample Analysis

On Form IX (ICP Serial Dilution) for sample MJE132L, positive sample and serial dilution results were given in µg/L, and negative results were given in µg/kg. NO action was required.

A CRDL sample was run.

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

14) 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.

INO/11739

U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO

MJD463

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): SOIL Lab Sample ID: CLP2881

Level (low/med): LOW Date Received: 04/15/89

% Solids: 78.9

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 33200 | | | |
| 7440-36-0 | Antimony | 5.9 | UJ | | |
| 7440-38-2 | Arsenic | 6.5 | UJ | | |
| 7440-39-3 | Barium | 235 | | | |
| 7440-41-7 | Beryllium | 1.4 | UJ | | |
| 7440-43-9 | Cadmium | 2.1 | | | |
| 7440-70-2 | Calcium | 4560 | | | |
| 7440-47-3 | Chromium | 32.8 | | | |
| 7440-48-4 | Cobalt | 22.2 | | | |
| 7440-50-8 | Copper | 84.4 | | | |
| 7439-89-6 | Iron | 37300 | | | |
| 7439-92-1 | Lead | 116 | | | |
| 7439-95-4 | Magnesium | 4340 | | | |
| 7439-96-5 | Manganese | 1180 | | | |
| 7439-97-6 | Mercury | 0.13 | U | | |
| 7440-02-0 | Nickel | 22.0 | | | |
| 7440-09-7 | Potassium | 2470 | | | |
| 7782-49-2 | Selenium | 0.30 | U | | |
| 7440-22-4 | Silver | 0.61 | UJ | | |
| 7440-23-5 | Sodium | 244 | J | | |
| 7440-28-0 | Thallium | 0.43 | U | | |
| 7440-62-2 | Vanadium | 107 | | | |
| 7440-66-6 | Zinc | 243 | | | |
| | Cyanide | | | | |

5 June 1989

Color Before: BROWN Clarity Before: Texture: COURSE

Color After: GREEN Clarity After: Artifacts: YES

Comments:
ROOTS

002

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE N

MJD464

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): SOIL Lab Sample ID: CLP2882

Level (low/med): LOW Date Received: 04/15/89

% Solids: 74.1

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 22400 | | | |
| 7440-36-0 | Antimony | 6.3 | US | | |
| 7440-38-2 | Arsenic | 5.3 | US | | |
| 7440-39-3 | Barium | 183 | | | |
| 7440-41-7 | Beryllium | 1.2 | US | | |
| 7440-43-9 | Cadmium | 0.81 | U | | |
| 7440-70-2 | Calcium | 3090 | | | |
| 7440-47-3 | Chromium | 25.4 | | | |
| 7440-48-4 | Cobalt | 16.3 | | | |
| 7440-50-8 | Copper | 14.7 | | | |
| 7439-89-6 | Iron | 27300 | | | |
| 7439-92-1 | Lead | 9.9 | | | |
| 7439-95-4 | Magnesium | 2140 | | | |
| 7439-96-5 | Manganese | 772 | | | |
| 7439-97-6 | Mercury | 0.13 | U | | |
| 7440-02-0 | Nickel | 12.4 | | | |
| 7440-09-7 | Potassium | 749 | J | | |
| 7782-49-2 | Selenium | 0.32 | U | | |
| 7440-22-4 | Silver | 0.65 | UJ | | |
| 7440-23-5 | Sodium | 293 | J | | |
| 7440-28-0 | Thallium | 0.46 | U | | |
| 7440-62-2 | Vanadium | 95.7 | | | |
| 7440-66-6 | Zinc | 37.0 | | | |
| | Cyanide | | | | |
| | | | | | |

5 JUNE 1989

Color Before: BROWN Clarity Before: Texture: COURS

Color After: GREEN Clarity After: Artifacts: YES

Comments:
ROOTS

003

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJD465

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): SOIL Lab Sample ID: CLP2883

Level (low/med): LOW Date Received: 04/15/89

% Solids: 76.4

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 31700 | | | |
| 7440-36-0 | Antimony | 6.1 | UJ | | |
| 7440-38-2 | Arsenic | 3.9 | UJ | | |
| 7440-39-3 | Barium | 213 | | | |
| 7440-41-7 | Beryllium | 1.3 | UJ | | |
| 7440-43-9 | Cadmium | 0.79 | U | | |
| 7440-70-2 | Calcium | 4600 | | | |
| 7440-47-3 | Chromium | 31.2 | | | |
| 7440-48-4 | Cobalt | 17.6 | | | |
| 7440-50-8 | Copper | 25.5 | | | |
| 7439-89-6 | Iron | 36600 | | | |
| 7439-92-1 | Lead | 12.9 | | | |
| 7439-95-4 | Magnesium | 4740 | | | |
| 7439-96-5 | Manganese | 822 | | | |
| 7439-97-6 | Mercury | 0.13 | U | | |
| 7440-02-0 | Nickel | 20.0 | | | |
| 7440-09-7 | Potassium | 1190 | J | | |
| 7782-49-2 | Selenium | 0.31 | U | | |
| 7440-22-4 | Silver | 0.63 | UJ | | |
| 7440-23-5 | Sodium | 303 | J | | |
| 7440-28-0 | Thallium | 0.45 | U | | |
| 7440-62-2 | Vanadium | 103 | | | |
| 7440-66-6 | Zinc | 84.3 | | | |
| | Cyanide | | | | |

5 June 1989

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Color After: GREEN Clarity After: Artifacts: YES

Comments:
GRASS,ROOTS

004

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE N

MJD466

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): SOIL Lab Sample ID: CLP2884

Level (low/med): LOW Date Received: 04/15/89

% Solids: 59.1

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 45100 | | | |
| 7440-36-0 | Antimony | 7.9 | UJ | | |
| 7440-38-2 | Arsenic | 4.9 | UJ | | |
| 7440-39-3 | Barium | 232 | | | |
| 7440-41-7 | Beryllium | 1.5 | UJ | | |
| 7440-43-9 | Cadmium | 1.0 | U | | |
| 7440-70-2 | Calcium | 4980 | | | |
| 7440-47-3 | Chromium | 38.5 | | | |
| 7440-48-4 | Cobalt | 17.2 | | | |
| 7440-50-8 | Copper | 26.7 | | | |
| 7439-89-6 | Iron | 42600 | | | |
| 7439-92-1 | Lead | 18.5 | | | |
| 7439-95-4 | Magnesium | 4970 | | | |
| 7439-96-5 | Manganese | 617 | | | |
| 7439-97-6 | Mercury | 0.17 | U | | |
| 7440-02-0 | Nickel | 20.9 | | | |
| 7440-09-7 | Potassium | 1270 | J | | |
| 7782-49-2 | Selenium | 0.41 | UJ | | |
| 7440-22-4 | Silver | 0.81 | U | | |
| 7440-23-5 | Sodium | 376 | J | | |
| 7440-28-0 | Thallium | 0.58 | U | | |
| 7440-62-2 | Vanadium | 120 | | | |
| 7440-66-6 | Zinc | 90.4 | | | |
| | Cyanide | | | | |
| | | | | | |

5 JUNE 1989

Color Before: BROWN Clarity Before: Texture: COURS

Color After: GREEN Clarity After: Artifacts: YES

Comments:
GRASS, ROOTS

005

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE No.

MJD467

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): SOIL Lab Sample ID: CLP2885

Level (low/med): LOW Date Received: 04/15/89

% Solids: 76.0

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 31900 | | | |
| 7440-36-0 | Antimony | 6.1 | UJ | | |
| 7440-38-2 | Arsenic | 3.6 | UJ | | |
| 7440-39-3 | Barium | 233 | | | |
| 7440-41-7 | Beryllium | 1.3 | UJ | | |
| 7440-43-9 | Cadmium | 0.79 | U | | |
| 7440-70-2 | Calcium | 4250 | | | |
| 7440-47-3 | Chromium | 37.6 | | | |
| 7440-48-4 | Cobalt | 20.9 | | | |
| 7440-50-8 | Copper | 29.9 | | | |
| 7439-89-6 | Iron | 39700 | | | |
| 7439-92-1 | Lead | 27.6 | | | |
| 7439-95-4 | Magnesium | 4890 | | | |
| 7439-96-5 | Manganese | 983 | | | |
| 7439-97-6 | Mercury | 0.13 | U | | |
| 7440-02-0 | Nickel | 21.3 | | | |
| 7440-09-7 | Potassium | 2580 | | | |
| 7782-49-2 | Selenium | 0.32 | U | | |
| 7440-22-4 | Silver | 0.63 | UJ | | |
| 7440-23-5 | Sodium | 225 | J | | |
| 7440-28-0 | Thallium | 0.45 | U | | |
| 7440-62-2 | Vanadium | 119 | | | |
| 7440-66-6 | Zinc | 94.7 | | | |
| | Cyanide | | | | |

5 JUNE 1989

Color Before: BROWN Clarity Before: Texture: COURSE

Color After: GREEN Clarity After: Artifacts: YES

Comments:
GRASS, ROOTS

006

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE N

MJE125

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD4F

Matrix (soil/water): WATER Lab Sample ID: CLP2886

Level (low/med): LOW Date Received: 04/15/89

% Solids: 0.0

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 66.6 | uJ | | |
| 7440-36-0 | Antimony | 23.3 | U | | |
| 7440-38-2 | Arsenic | 2.0 | uJ | | |
| 7440-39-3 | Barium | 14.8 | U | | |
| 7440-41-7 | Beryllium | 1.2 | uJ | | |
| 7440-43-9 | Cadmium | 3.0 | U | | |
| 7440-70-2 | Calcium | 321 | J | | |
| 7440-47-3 | Chromium | 4.9 | U | | |
| 7440-48-4 | Cobalt | 5.9 | U | | |
| 7440-50-8 | Copper | 5.0 | U | | |
| 7439-89-6 | Iron | 26.4 | uJ | | |
| 7439-92-1 | Lead | 0.50 | uJ | | |
| 7439-95-4 | Magnesium | 153 | U | | |
| 7439-96-5 | Manganese | 3.9 | U | | |
| 7439-97-6 | Mercury | 0.20 | U | | |
| 7440-02-0 | Nickel | 20.8 | U | | |
| 7440-09-7 | Potassium | 551 | U | | |
| 7782-49-2 | Selenium | 1.2 | U | | |
| 7440-22-4 | Silver | 2.4 | uJ | | |
| 7440-23-5 | Sodium | 523 | U | | |
| 7440-28-0 | Thallium | 1.7 | U | | |
| 7440-62-2 | Vanadium | 9.0 | U | | |
| 7440-66-6 | Zinc | 8.3 | U | | |
| | Cyanide | | | | |
| | | | | | |

5 JUNE 198

Color Before: COLORLESS Clarity Before: CLEAR Texture:

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Comments:

007

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJE126

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): WATER Lab Sample ID: CLP2887

Level (low/med): LOW Date Received: 04/15/89

% Solids: 0.0

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 72.9 | UJ | | |
| 7440-36-0 | Antimony | 23.3 | UJ | | |
| 7440-38-2 | Arsenic | 1.5 | U | | |
| 7440-39-3 | Barium | 14.8 | U | | |
| 7440-41-7 | Beryllium | 2.2 | UJ | | |
| 7440-43-9 | Cadmium | 3.0 | U | | |
| 7440-70-2 | Calcium | 354 | J | | |
| 7440-47-3 | Chromium | 5.9 | J | | |
| 7440-48-4 | Cobalt | 5.9 | U | | |
| 7440-50-8 | Copper | 5.0 | U | | |
| 7439-89-6 | Iron | 37.7 | UJ | | |
| 7439-92-1 | Lead | 1.5 | UJ | | |
| 7439-95-4 | Magnesium | 153 | U | | |
| 7439-96-5 | Manganese | 3.9 | U | | |
| 7439-97-6 | Mercury | 0.20 | U | | |
| 7440-02-0 | Nickel | 20.8 | U | | |
| 7440-09-7 | Potassium | 551 | U | | |
| 7782-49-2 | Selenium | 1.2 | U | | |
| 7440-22-4 | Silver | 2.4 | UJ | | |
| 7440-23-5 | Sodium | 523 | U | | |
| 7440-28-0 | Thallium | 1.7 | U | | |
| 7440-62-2 | Vanadium | 9.0 | U | | |
| 7440-66-6 | Zinc | 8.3 | U | | |
| | Cyanide | | | | |

5 June 1989

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

008

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJE127

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD45

Matrix (soil/water): WATER Lab Sample ID: CLP2888

Level (low/med): LOW Date Received: 04/15/89

% Solids: 0.0

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 120 | uJ | | |
| 7440-36-0 | Antimony | 23.3 | U | | |
| 7440-38-2 | Arsenic | 4.6 | uJ | | |
| 7440-39-3 | Barium | 27.9 | J | | |
| 7440-41-7 | Beryllium | 1.2 | uJ | | |
| 7440-43-9 | Cadmium | 3.0 | U | | |
| 7440-70-2 | Calcium | 20900 | | | |
| 7440-47-3 | Chromium | 4.9 | U | | |
| 7440-48-4 | Cobalt | 5.9 | U | | |
| 7440-50-8 | Copper | 5.0 | U | | |
| 7439-89-6 | Iron | 6090 | | | |
| 7439-92-1 | Lead | 1.7 | uJ | | |
| 7439-95-4 | Magnesium | 9360 | | | |
| 7439-96-5 | Manganese | 199 | | | |
| 7439-97-6 | Mercury | 0.20 | U | | |
| 7440-02-0 | Nickel | 20.8 | U | | |
| 7440-09-7 | Potassium | 912 | J | | |
| 7782-49-2 | Selenium | 1.2 | U | | |
| 7440-22-4 | Silver | 2.4 | uJ | | |
| 7440-23-5 | Sodium | 13100 | | | |
| 7440-28-0 | Thallium | 1.7 | U | | |
| 7440-62-2 | Vanadium | 9.0 | U | | |
| 7440-66-6 | Zinc | 44.7 | | | |
| | Cyanide | | | | |
| | | | | | |

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Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:



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EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

MJE136

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD463

Matrix (soil/water): SOIL Lab Sample ID: CLP2897

Level (low/med): LOW Date Received: 04/15/89

% Solids: 74.2

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 22900 | | | |
| 7440-36-0 | Antimony | 23.0 | J | | |
| 7440-38-2 | Arsenic | 7.5 | UJ | | |
| 7440-39-3 | Barium | 805 | | | |
| 7440-41-7 | Beryllium | 0.89 | UJ | | |
| 7440-43-9 | Cadmium | 22.7 | | | |
| 7440-70-2 | Calcium | 12000 | | | |
| 7440-47-3 | Chromium | 60.6 | | | |
| 7440-48-4 | Cobalt | 16.4 | | | |
| 7440-50-8 | Copper | 2630 | | | |
| 7439-89-6 | Iron | 49600 | | | |
| 7439-92-1 | Lead | 1120 | | | |
| 7439-95-4 | Magnesium | 4570 | | | |
| 7439-96-5 | Manganese | 737 | | | |
| 7439-97-6 | Mercury | 0.13 | U | | |
| 7440-02-0 | Nickel | 50.8 | | | |
| 7440-09-7 | Potassium | 1750 | | | |
| 7782-49-2 | Selenium | 0.32 | U | | |
| 7440-22-4 | Silver | 5.6 | | | |
| 7440-23-5 | Sodium | 983 | J | | |
| 7440-28-0 | Thallium | 0.46 | U | | |
| 7440-62-2 | Vanadium | 93.2 | | | |
| 7440-66-6 | Zinc | 4400 | | | |
| | Cyanide | | | | |

5 JUNE 1989

Color Before: BROWN Clarity Before: Texture: COURSE

Color After: GREEN Clarity After: Artifacts: YES

Comments:
GLASS, ROOTS, GLASS, PLASTIC

018

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MJE128

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): WATER Lab Sample ID: CLP2889

Level (low/med): LOW Date Received: 04/15/89

% Solids: 0.0

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 123 | UJ | | |
| 7440-36-0 | Antimony | 23.3 | U | | |
| 7440-38-2 | Arsenic | 1.5 | UJ | | |
| 7440-39-3 | Barium | 14.8 | U | | |
| 7440-41-7 | Beryllium | 1.2 | UJ | | |
| 7440-43-9 | Cadmium | 3.0 | U | | |
| 7440-70-2 | Calcium | 28700 | | | |
| 7440-47-3 | Chromium | 4.9 | U | | |
| 7440-48-4 | Cobalt | 5.9 | U | | |
| 7440-50-8 | Copper | 5.0 | U | | |
| 7439-89-6 | Iron | 262 | | | |
| 7439-92-1 | Lead | 1.7 | UJ | | |
| 7439-95-4 | Magnesium | 12100 | | | |
| 7439-96-5 | Manganese | 54.2 | | | |
| 7439-97-6 | Mercury | 0.20 | U | | |
| 7440-02-0 | Nickel | 20.8 | U | | |
| 7440-09-7 | Potassium | 1090 | J | | |
| 7782-49-2 | Selenium | 1.2 | U | | |
| 7440-22-4 | Silver | 2.4 | UJ | | |
| 7440-23-5 | Sodium | 12000 | | | |
| 7440-28-0 | Thallium | 1.7 | U | | |
| 7440-62-2 | Vanadium | 9.0 | U | | |
| 7440-66-6 | Zinc | 50.6 | | | |
| | Cyanide | | | | |
| | | | | | |

5 June 1989

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

010



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EPA SAMPLE N

INORGANIC ANALYSIS DATA SHEET

MJE129

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): WATER Lab Sample ID: CLP2890

Level (low/med): LOW Date Received: 04/15/89

% Solids: 0.0

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 44.6 | UJ | | |
| 7440-36-0 | Antimony | 23.3 | U | | |
| 7440-38-2 | Arsenic | 1.5 | UJ | | |
| 7440-39-3 | Barium | 14.8 | U | | |
| 7440-41-7 | Beryllium | 1.2 | UJ | | |
| 7440-43-9 | Cadmium | 3.0 | U | | |
| 7440-70-2 | Calcium | 11400 | | | |
| 7440-47-3 | Chromium | 4.9 | U | | |
| 7440-48-4 | Cobalt | 5.9 | U | | |
| 7440-50-8 | Copper | 5.0 | U | | |
| 7439-89-6 | Iron | 342 | | | |
| 7439-92-1 | Lead | 6.4 | UJ | | |
| 7439-95-4 | Magnesium | 5900 | | | |
| 7439-96-5 | Manganese | 116 | | | |
| 7439-97-6 | Mercury | 0.20 | U | | |
| 7440-02-0 | Nickel | 20.8 | U | | |
| 7440-09-7 | Potassium | 1270 | J | | |
| 7782-49-2 | Selenium | 1.2 | U | | |
| 7440-22-4 | Silver | 2.4 | UJ | | |
| 7440-23-5 | Sodium | 14700 | | | |
| 7440-28-0 | Thallium | 1.7 | U | | |
| 7440-62-2 | Vanadium | 9.0 | U | | |
| 7440-66-6 | Zinc | 144 | | | |
| | Cyanide | | | | |
| | | | | | |

5 JUNE 98

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

011

FORM I - IN

7/8

Rev. IFB Amendment O

U.S. EPA - CLP

EPA SAMPLE NO

INORGANIC ANALYSIS DATA SHEET

MJE130

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): WATER Lab Sample ID: CLP2891

Level (low/med): LOW Date Received: 04/15/89

% Solids: 0.0

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 112 | UJ | | |
| 7440-36-0 | Antimony | 23.3 | U | | |
| 7440-38-2 | Arsenic | 1.5 | UJ | | |
| 7440-39-3 | Barium | 14.8 | U | | |
| 7440-41-7 | Beryllium | 1.2 | UJ | | |
| 7440-43-9 | Cadmium | 3.0 | U | | |
| 7440-70-2 | Calcium | 23100 | | | |
| 7440-47-3 | Chromium | 4.9 | U | | |
| 7440-48-4 | Cobalt | 5.9 | U | | |
| 7440-50-8 | Copper | 5.0 | U | | |
| 7439-89-6 | Iron | 127 | | | |
| 7439-92-1 | Lead | 2.2 | UJ | | |
| 7439-95-4 | Magnesium | 10300 | | | |
| 7439-96-5 | Manganese | 5.0 | J | | |
| 7439-97-6 | Mercury | 0.20 | U | | |
| 7440-02-0 | Nickel | 20.8 | U | | |
| 7440-09-7 | Potassium | 551 | U | | |
| 7782-49-2 | Selenium | 1.2 | U | | |
| 7440-22-4 | Silver | 2.4 | UJ | | |
| 7440-23-5 | Sodium | 10800 | | | |
| 7440-28-0 | Thallium | 1.7 | U | | |
| 7440-62-2 | Vanadium | 9.0 | U | | |
| 7440-66-6 | Zinc | 79.4 | | | |
| | Cyanide | | | | |

5 JUNE 1989

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

012

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U.S. EPA - CLP

EPA SAMPLE NO.

MJE131

INORGANIC ANALYSIS DATA SHEET

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): SOIL Lab Sample ID: CLP2892

Level (low/med): LOW Date Received: 04/15/89

% Solids: 86.3

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 21400 | | | |
| 7440-36-0 | Antimony | 5.4 | UJ | | |
| 7440-38-2 | Arsenic | 4.9 | UJ | | |
| 7440-39-3 | Barium | 94.8 | | | |
| 7440-41-7 | Beryllium | 0.88 | UJ | | |
| 7440-43-9 | Cadmium | 0.70 | U | | |
| 7440-70-2 | Calcium | 4820 | | | |
| 7440-47-3 | Chromium | 17.6 | | | |
| 7440-48-4 | Cobalt | 10.3 | J | | |
| 7440-50-8 | Copper | 28.0 | | | |
| 7439-89-6 | Iron | 29500 | | | |
| 7439-92-1 | Lead | 6.8 | | | |
| 7439-95-4 | Magnesium | 4680 | | | |
| 7439-96-5 | Manganese | 534 | | | |
| 7439-97-6 | Mercury | 0.12 | U | | |
| 7440-02-0 | Nickel | 13.6 | | | |
| 7440-09-7 | Potassium | 1130 | J | | |
| 7782-49-2 | Selenium | 0.28 | U | | |
| 7440-22-4 | Silver | 0.59 | UJ | | |
| 7440-23-5 | Sodium | 404 | J | | |
| 7440-28-0 | Thallium | 0.39 | U | | |
| 7440-62-2 | Vanadium | 72.0 | | | |
| 7440-66-6 | Zinc | 65.2 | | | |
| | Cyanide | | | | |

5 JUNE 1989

Color Before: BROWN Clarity Before: Texture: COURS

Color After: GREEN Clarity After: Artifacts: YES

Comments:
WOOD, ROOTS, GRASS

013

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJE132

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): SOIL Lab Sample ID: CLP2893

Level (low/med): LOW Date Received: 04/15/89

% Solids: 88.3

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 18300 | | | |
| 7440-36-0 | Antimony | 5.3 | UJ | | |
| 7440-38-2 | Arsenic | 4.8 | UJ | | |
| 7440-39-3 | Barium | 84.6 | | | |
| 7440-41-7 | Beryllium | 0.72 | UJ | | |
| 7440-43-9 | Cadmium | 0.68 | U | | |
| 7440-70-2 | Calcium | 4780 | | | |
| 7440-47-3 | Chromium | 15.5 | | | |
| 7440-48-4 | Cobalt | 10.2 | J | | |
| 7440-50-8 | Copper | 21.8 | | | |
| 7439-89-6 | Iron | 28700 | | | |
| 7439-92-1 | Lead | 4.8 | | | |
| 7439-95-4 | Magnesium | 5060 | | | |
| 7439-96-5 | Manganese | 504 | | | |
| 7439-97-6 | Mercury | 0.11 | U | | |
| 7440-02-0 | Nickel | 12.9 | | | |
| 7440-09-7 | Potassium | 936 | J | | |
| 7782-49-2 | Selenium | 0.27 | U | | |
| 7440-22-4 | Silver | 0.54 | UJ | | |
| 7440-23-5 | Sodium | 429 | J | | |
| 7440-28-0 | Thallium | 0.39 | U | | |
| 7440-62-2 | Vanadium | 66.1 | | | |
| 7440-66-6 | Zinc | 55.1 | | | |
| | Cyanide | | | | |
| | | | | | |

5 JUNE 1989

Color Before: BROWN Clarity Before: Texture: COURSE

Color After: GREEN Clarity After: Artifacts: YES

Comments:
ROOTS



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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJE133

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): SOIL Lab Sample ID: CLP2894

Level (low/med): LOW Date Received: 04/15/89

% Solids: 91.2

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 13500 | | | |
| 7440-36-0 | Antimony | 10.4 | J | | |
| 7440-38-2 | Arsenic | 7.4 | UJ | | |
| 7440-39-3 | Barium | 472 | | | |
| 7440-41-7 | Beryllium | 0.60 | UJ | | |
| 7440-43-9 | Cadmium | 6.6 | | | |
| 7440-70-2 | Calcium | 7310 | | | |
| 7440-47-3 | Chromium | 42.0 | | | |
| 7440-48-4 | Cobalt | 15.1 | | | |
| 7440-50-8 | Copper | 574 | | | |
| 7439-89-6 | Iron | 84000 | | | |
| 7439-92-1 | Lead | 469 | | | |
| 7439-95-4 | Magnesium | 5530 | | | |
| 7439-96-5 | Manganese | 589 | | | |
| 7439-97-6 | Mercury | 0.11 | U | | |
| 7440-02-0 | Nickel | 53.5 | | | |
| 7440-09-7 | Potassium | 782 | J | | |
| 7782-49-2 | Selenium | 0.42 | J | | |
| 7440-22-4 | Silver | 1.0 | UJ | | |
| 7440-23-5 | Sodium | 678 | J | | |
| 7440-28-0 | Thallium | 0.42 | J | | |
| 7440-62-2 | Vanadium | 89.5 | | | |
| 7440-66-6 | Zinc | 2510 | | | |
| | Cyanide | | | | |
| | | | | | |

5 JUNE 1989

Color Before: BROWN Clarity Before: Texture: COURS

Color After: GREEN Clarity After: Artifacts: YES

Comments:
GLASS



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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJE134

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJD46

Matrix (soil/water): SOIL Lab Sample ID: CLP2895

Level (low/med): LOW Date Received: 04/15/89

% Solids: 94.7

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 11700 | | | |
| 7440-36-0 | Antimony | 5.2 | J | | |
| 7440-38-2 | Arsenic | 9.2 | UJ | | |
| 7440-39-3 | Barium | 470 | | | |
| 7440-41-7 | Beryllium | 0.68 | UJ | | |
| 7440-43-9 | Cadmium | 4.0 | | | |
| 7440-70-2 | Calcium | 5880 | | | |
| 7440-47-3 | Chromium | 32.0 | | | |
| 7440-48-4 | Cobalt | 13.7 | | | |
| 7440-50-8 | Copper | 626 | | | |
| 7439-89-6 | Iron | 65200 | | | |
| 7439-92-1 | Lead | 553 | | | |
| 7439-95-4 | Magnesium | 4640 | | | |
| 7439-96-5 | Manganese | 515 | | | |
| 7439-97-6 | Mercury | 0.11 | U | | |
| 7440-02-0 | Nickel | 53.0 | | | |
| 7440-09-7 | Potassium | 740 | J | | |
| 7782-49-2 | Selenium | 0.31 | J | | |
| 7440-22-4 | Silver | 1.3 | UJ | | |
| 7440-23-5 | Sodium | 565 | J | | |
| 7440-28-0 | Thallium | 0.36 | U | | |
| 7440-62-2 | Vanadium | 78.7 | | | |
| 7440-66-6 | Zinc | 1420 | | | |
| | Cyanide | | | | |

5 JUNE 1989

Color Before: BROWN Clarity Before: Texture: COURSE

Color After: GREEN Clarity After: Artifacts: YES

Comments:
GLASS



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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE No.

MJE135

Lab Name: DATACHEM Contract: 68-W8-0015

Lab Code: DATAC Case No.: 11739 SAS No.: SDG No.: MJE1

Matrix (soil/water): SOIL Lab Sample ID: CLP2896

Level (low/med): LOW Date Received: 04/15/89

% Solids: 92.4

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

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 11600 | | | |
| 7440-36-0 | Antimony | 7.7 | J | | |
| 7440-38-2 | Arsenic | 10.7 | J | | |
| 7440-39-3 | Barium | 317 | | | |
| 7440-41-7 | Beryllium | 0.77 | UJ | | |
| 7440-43-9 | Cadmium | 3.4 | | | |
| 7440-70-2 | Calcium | 5540 | | | |
| 7440-47-3 | Chromium | 29.2 | | | |
| 7440-48-4 | Cobalt | 13.5 | | | |
| 7440-50-8 | Copper | 468 | | | |
| 7439-89-6 | Iron | 65100 | | | |
| 7439-92-1 | Lead | 441 | | | |
| 7439-95-4 | Magnesium | 4910 | | | |
| 7439-96-5 | Manganese | 535 | | | |
| 7439-97-6 | Mercury | 0.11 | U | | |
| 7440-02-0 | Nickel | 45.6 | | | |
| 7440-09-7 | Potassium | 749 | J | | |
| 7782-49-2 | Selenium | 0.31 | J | | |
| 7440-22-4 | Silver | 0.52 | UJ | | |
| 7440-23-5 | Sodium | 620 | J | | |
| 7440-28-0 | Thallium | 0.37 | U | | |
| 7440-62-2 | Vanadium | 82.1 | | | |
| 7440-66-6 | Zinc | 407 | | | |
| | Cyanide | | | | |

5 JUNE 1989

Color Before: BROWN Clarity Before: Texture: COURS

Color After: GREEN Clarity After: Artifacts:

Comments:

017

FORM I - IN

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

MEMORANDUM

DATE: June 26, 1989

FOR: Rhonda Wreggelsworth, RSCC, USEPA, Region X

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

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

SUBJ: QA of Case 11739 (Organics)
Magnum Salvage/Horizon Vehicles

REF: F10-8904-007
PAN F10Z094QA

CC: John Osborn, PO, USEPA, Region X
Bruce Woods, ESD, USEPA, Region X
Gerald Muth, DPO, Region X Laboratory, Manchester
David Stockton, DPO, USEPA, Region VI
Deborah Flood, HWD-SM, USEPA, Region X
Joseph Hunt, FIT-PD, E & E, Seattle
Mark Ader, FIT-PM, E & E, Seattle

The Quality Assurance review of 17 samples, Case 11739, collected from Magnum Salvage/Horizon Vehicles has been completed. Six water and eleven soil samples were analyzed at low level for TCL semivolatile organics and pesticides/PCBs by American Analytical Technical Services of Broken Arrow, Oklahoma. The samples were numbered:

| | | |
|---|---|---|
| JD410 (water) | JD416 (soil) | JD838 (soil) |
| JD411 (water) | JD417 (soil) | JD839 (soil) |
| JD412 (water) | JD418 (soil) | JD840 (soil) |
| JD413 (water) | JD419 (soil) | JD841 (soil) |
| JD414 (water) | JD420 (soil) | JD842 (soil) |
| JD415 (water) | JS421 (soil) | |

Samples JD415 and JD417 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).



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1) Timeliness

| Sample Number | Sample Date | Rec'd Date | BNA Ext. | BNA Anal. | Pest. Ext. | Pest. Anal. |
|---|---|---|---|---|---|---|
| JD410 | 04/13/89 | 04/15/89 | 04/18/89 | 05/03/89 | 04/18/89 | 04/26/89 |
| JD411 | 04/13/89 | 04/15/89 | 04/18/89 | 05/03/89 | 04/18/89 | 04/26/89 |
| JD412 | 04/13/89 | 04/15/89 | 04/18/89 | 05/03/89 | 04/18/89 | 04/26/89 |
| JD413 | 04/13/89 | 04/15/89 | 04/18/89 | 05/03/89 | 04/18/89 | 04/26/89 |
| JD414 | 04/13/89 | 04/15/89 | 04/18/89 | 05/03/89 | 04/18/89 | 04/26/89 |
| JD415 | 04/13/89 | 04/15/89 | 04/18/89 | 05/03/89 | 04/18/89 | 04/27/89 |
| JD416 | 04/13/89 | 04/15/89 | 04/26/89 | 05/10/89 | 04/26/89 | 05/10/89 |
| JD417 | 04/13/89 | 04/15/89 | 04/26/89 | 05/10/89 | 04/26/89 | 05/10/89 |
| JD418 | 04/13/89 | 04/15/89 | 04/26/89 | 05/10/89 | 04/26/89 | 05/10/89 |
| JD419 | 04/13/89 | 04/15/89 | 04/26/89 | 05/10/89 | 04/26/89 | 05/10/89 |
| JD420 | 04/13/89 | 04/15/89 | 04/26/89 | 05/10/89 | 04/26/89 | 05/10/89 |
| JD421 | 04/13/89 | 04/15/89 | 04/26/89 | 05/10/89 | 04/26/89 | 05/10/89 |
| JD838 | 04/13/89 | 04/15/89 | 04/26/89 | 05/10/89 | 04/26/89 | 05/10/89 |
| JD839 | 04/13/89 | 04/15/89 | 04/26/89 | 05/10/89 | 04/26/89 | 05/10/89 |
| JD840 | 04/13/89 | 04/15/89 | 04/26/89 | 05/10/89 | 04/26/89 | 05/10/89 |
| JD841 | 04/13/89 | 04/15/89 | 04/26/89 | 05/10/89 | 04/26/89 | 05/10/89 |
| JD842 | 04/13/89 | 04/15/89 | 04/26/89 | 05/10/89 | 04/26/89 | 05/10/89 |

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

| Sample Number | Matrix | Fraction | Sampling Date | Extraction Date | Time Elapsed | QC Criteria |
|---|---|---|---|---|---|---|
| JD416 | Soil | BNA/Pest/PCB | 04/13/89 | 04/26/89 | 13 days | 7 days |
| JD417 | Soil | BNA/Pest/PCB | 04/13/89 | 04/26/89 | 13 days | 7 days |
| JD418 | Soil | BNA/Pest/PCB | 04/13/89 | 04/26/89 | 13 days | 7 days |
| JD419 | Soil | BNA/Pest/PCB | 04/13/89 | 04/26/89 | 13 days | 7 days |
| JD420 | Soil | BNA/Pest/PCB | 04/13/89 | 04/26/89 | 13 days | 7 days |
| JD421 | Soil | BNA/Pest/PCB | 04/13/89 | 04/26/89 | 13 days | 7 days |
| JD838 | Soil | BNA/Pest/PCB | 04/13/89 | 04/26/89 | 13 days | 7 days |
| JD839 | Soil | BNA/Pest/PCB | 04/13/89 | 04/26/89 | 13 days | 7 days |
| JD840 | Soil | BNA/Pest/PCB | 04/13/89 | 04/26/89 | 13 days | 7 days |
| JD841 | Soil | BNA/Pest/PCB | 04/13/89 | 04/26/89 | 13 days | 7 days |
| JD842 | Soil | BNA/Pest/PCB | 04/13/89 | 04/26/89 | 13 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 semivolatile analysis, except:

| Date | Time | Fraction | Compound | Ion | Relative Abundance | QC Criteria | Associated Samples |
|---|---|---|---|---|---|---|---|
| 05/10/89 | 14:11 | BNA | DFTPP* | 441 | 85 | 8.0** | *** |

* DFTPP = Decafluorotriphenylphosphine
** 8.0 was the relative abundance of ion 443; ion 441 criteria relative abundance is that it must be present, but less than ion 443. Upon contact with the laboratory, corrected raw data and summary sheets for the date and time listed above were submitted. No action was taken.
*** JD416, JD417, JD418, JD419, JD420, JD421, JD838.

The summary (5B) for the DFTPP tuning dated May 3, 1989, reported a standard injection time of 9:31; raw data reported a standard injection time of 11:13. As 9:31 was the correct injection for the previous tuning run, reviewer assumed 11:13 to be the correct injection time for the May 3, 1989, tuning analysis. No action was taken.

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 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.

4) Continuing Calibrations

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

All non-SPCC compounds had RRF(50)s of greater than or equal to 0.05 for continuing 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 | Conc. µg/L | CRQL µg/L | Associated Samples |
|---|---|---|---|---|---|
| SBLK 1 | BNA | bis(2-ethylhexyl) phthalate | 6 J | 10 U | JD410, JD411, JD412, JD413, JD414, JD415 |

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).

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 (%D) calculated for the retention time of dibutylchlorendate did not exceed 0.3 percent for the capillary columns for any samples, except:

| Sample Number | Matrix | Date Analyzed | %D |
|---|---|---|---|
| JD839 | Soil | 05/10/89 | 0.4 |
| JD840 | Soil | 05/10/89 | 0.5 |
| JD841 | Soil | 05/10/89 | 0.6 |
| JD842 | Soil | 05/10/89 | 0.5 |

All pesticide/RB results for the above samples were flagged unusable (R).

g) Standards Summary

Not all of the calibration factors used to establish linearity could be verified; most of the water matrix factors were verified as analyte area divided by the standard concentrations, but all the recalculated calibration factors for soil matrix were off by a factor of 1.1 to 2.1, using the above calculation. No action was taken.

7) Surrogate Recovery

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

| Sample Number | Fraction | Compound | Matrix | %R | QC Limits |
|---|---|---|---|---|---|
| JD410 | BNA | Phenol-d5 | Water | 98 | 10 - 94 |
| JD415MS | BNA | Phenol-d5 | Water | 98 | 10 - 95 |
| JD415MSD | BNA | Phenol-d5 | Water | 98 | 10 - 95 |

No action was taken based on the one semivolatile surrogate outlier.

Recoveries for dibutylchlorendate (pesticide/PCB surrogate) met advisory QC guidelines.

All surrogate compounds met calibration QC criteria.

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 |
|---|---|---|---|---|---|
| JD415MS | BNA | Phenol | Water | 88 | 12 - 86 |
| | | 4-chloro-3-methylphenol | Water | 105 | 23 - 97 |
| | | 4-nitrophenol | Water | 118 | 10 - 80 |
| | | 2,4-dinitrotoluene | Water | 111 | 24 - 96 |
| | | Pentachlorophenol | Water | 124 | 9 - 103 |
| JD415MSD | BNA | Phenol | Water | 90 | 12 - 86 |
| | | 4-chloro-3-methylphenol | Water | 101 | 23 - 97 |
| | | 4-nitrophenol | Water | 125 | 10 - 80 |
| | | 2,4-dinitrotoluene | Water | 116 | 24 - 96 |
| | | Pentachlorophenol | Water | 130 | 9 - 103 |
| JD415MSD | Pest/PCB | Gamma-BHC | Water | 133 | 56 - 123 |
| | | Aldrin | Water | 126 | 40 - 120 |
| JD417MS | BNA | N-Nitroso-di-n-propylamine | Soil | 38 | 41 - 126 |
| JD417MS | Pest/PCB | Aldrin | Soil | 142 | 34 - 132 |
| JD417MSD | BNA | N-Nitroso-di-n-propylamine | Soil | 35 | 41 - 126 |
| JD417MSD | Pest/PCB | Aldrin | Soil | 163 | 34 - 132 |

The acid compounds in the semivolatile fraction of sample JD415 were flagged as estimated (J or UJ).

Results for N-Nitroso-di-n-propylamine in sample JD417 was flagged as estimated (J or UJ).

All RPD values for the MS and MSD were within QC guidelines.

9) Internal Standard Recovery

All internal standard areas were within established QC limits.

10) Sample Analysis

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

The pesticide/PCB fraction of sample JD421 appeared to contain A1260, which was not reported by the laboratory. Upon contact with the laboratory, a corrected Form I was submitted. The corrected Form I for JD421 was submitted with this memorandum.

Due to the relatively similar nature of the two capillary columns used for pesticide/PCB analysis, 4,4'-DDT areas were reported for both columns when A1260 or A1254 were present in the sample. The laboratory used professional judgement in not reporting 4,4'-DDT for those samples. As it was not possible to verify whether DDT was present at low levels without GC-MS analysis, which was not performed, quantitation limits for 4,4'-DDT were rejected (R).

11) Laboratory Contact

The laboratory was contacted on 06/01/89 and 06/02/89 (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 data for samples collected during the site investigation identified on the cover page under the heading Magnum Salvage/Horizon Vehicles.

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/11739

In Reference to Case No(s): 11739

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: ~~5-31-89~~ 6-1-89

Laboratory Name: American Analytical Technical Services

Lab Contact: Robert Harris

Region: X

Regional Contact:

Call Initiated By: ____ Laboratory X Region

In reference to data for the following sample number(s):
JD 410 - JD421, JD338 - JD842

Summary of Questions/Issues Discussed:
1) Please define exclamation points next to raw areas for Aroclor hits
2) Examine JD421; reported as no hits; but area indicate an Aroclor (that file was not run)

Summary of Resolution:
1) exclamation points have no meaning
2) re-run Aroclor ~~[illegible]~~ file for the sample; doesn't look like a PCB. They will FAX data from the Aroclor file

Tracy Yerian
Signature

~~5-31-89~~ 6-1-89
Date

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

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In Reference to Case No(s)
11739

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: 6-2-89

Laboratory Name: American Analytical Technical Services

Lab Contact: Gayault Springapure

Region: X

Regional Contact:

Call Initiated By: ____ Laboratory X Region

In reference to data for the following sample number(s):
JD416 - JD421, JD838 - JD842

Summary of Questions/Issues Discussed:
1) EAK not received
2) Tuning out
3) DDT? Shows up as hit on quant and conf when Aroclors are present — [illegible]

Summary of Resolution:
1) Will send corrected tune
2) Gayault has not seen Aroclor file for sample JD421. He confirmed that it is a hit for A1260. He also agreed that if DDT was present when A1260 or A1254, it would not be identified at low levels.

Tracy Yerian
Signature

6-3-89
Date

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

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1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD410

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25831

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25831

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

| 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 |
| 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 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |



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JDC 2-89

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD410

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25831

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25831

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | |
|---|---|---|---|
| 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 | 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 | 10 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 50 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 50 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 10 | U |
| 118-74-1 | Hexachlorobenzene | 10 | U |
| 87-86-5 | Pentachlorophenol | 10 | U |
| 85-01-8 | Phenanthrene | 50 | 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 | 10 | U |
| 56-55-3 | Benzo(a)Anthracene | 20 | U |
| 218-01-9 | Chrysene | 10 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 10 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 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 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD410

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25831

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25831

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

Number TICs found: 0

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

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

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# PESTICIDE OI ID VICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD410

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25831

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/26/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 0.050 | U |
| 319-85-7 | beta-BHC | 0.050 | U |
| 319-86-8 | delta-BHC | 0.050 | U |
| 58-89-9 | gamma-BHC (Lindane) | 0.050 | U |
| 76-44-8 | Heptachlor | 0.050 | U |
| 309-00-2 | Aldrin | 0.050 | U |
| 1024-57-3 | Heptachlor epoxide | 0.050 | U |
| 959-98-8 | Endosulfan I | 0.050 | U |
| 60-57-1 | Dieldrin | 0.10 | U |
| 72-55-9 | 4,4'-DDE | 0.10 | U |
| 72-20-8 | Endrin | 0.10 | U |
| 33213-65-9 | Endosulfan II | 0.10 | U |
| 72-54-8 | 4,4'-DDD | 0.10 | U |
| 1031-07-8 | Endosulfan sulfate | 0.10 | U |
| 50-29-3 | 4,4'-DDT | 0.10 | U |
| 72-43-5 | Methoxychlor | 0.50 | U |
| 53494-70-5 | Endrin ketone | 0.10 | U |
| 5103-71-9 | alpha-Chlordane | 0.50 | U |
| 5103-74-2 | gamma-Chlordane | 0.50 | U |
| 8001-35-2 | Toxaphene | 1.0 | U |
| 12674-11-2 | Aroclor-1016 | 0.50 | U |
| 11104-28-2 | Aroclor-1221 | 0.50 | U |
| 11141-16-5 | Aroclor-1232 | 0.50 | U |
| 53469-21-9 | Aroclor-1242 | 0.50 | U |
| 12672-29-6 | Aroclor-1248 | 0.50 | U |
| 11097-69-1 | Aroclor-1254 | 1.0 | U |
| 11096-82-5 | Aroclor-1260 | 1.0 | U |

JWK 6-2-89

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD411

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25832

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25832

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/19/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 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 |
| 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 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

Jay 2-8



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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD411

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25832

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25832

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | D |
|---|---|---|
| 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 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 |
| 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-Octyl Phthalate | 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 | Dibenz(a,h)Anthracene | 10 U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 U |

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD411

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25832

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25832

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.0

Number TICs found: 0

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

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

July 6-2-89



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1D
PESTICIDE O NICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD411

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25832

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/26/89

GPC Cleanup: (Y/N) N pH: 6.1 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 0.050 | U |
| 319-85-7 | beta-BHC | 0.050 | U |
| 319-86-8 | delta-BHC | 0.050 | U |
| 58-89-9 | gamma-BHC (Lindane) | 0.050 | U |
| 76-44-8 | Heptachlor | 0.050 | U |
| 309-00-2 | Aldrin | 0.050 | U |
| 1024-57-3 | Heptachlor epoxide | 0.050 | U |
| 959-98-8 | Endosulfan I | 0.050 | U |
| 60-57-1 | Dieldrin | 0.10 | U |
| 72-55-9 | 4,4'-DDE | 0.10 | U |
| 72-20-8 | Endrin | 0.10 | U |
| 33213-65-9 | Endosulfan II | 0.10 | U |
| 72-54-8 | 4,4'-DDD | 0.10 | U |
| 1031-07-8 | Endosulfan sulfate | 0.10 | U |
| 50-29-3 | 4,4'-DDT | 0.10 | U |
| 72-43-5 | Methoxychlor | 0.50 | U |
| 53494-70-5 | Endrin ketone | 0.10 | U |
| 5103-71-9 | alpha-Chlordane | 0.50 | U |
| 5103-74-2 | gamma-Chlordane | 0.50 | U |
| 8001-35-2 | Toxaphene | 1.0 | U |
| 12674-11-2 | Aroclor-1016 | 0.50 | U |
| 11104-28-2 | Aroclor-1221 | 0.50 | U |
| 11141-16-5 | Aroclor-1232 | 0.50 | U |
| 53469-21-9 | Aroclor-1242 | 0.50 | U |
| 12672-29-6 | Aroclor-1248 | 0.50 | U |
| 11097-69-1 | Aroclor-1254 | 1.0 | U |
| 11096-82-5 | Aroclor-1260 | 1.0 | U |

JCF 6-2-89

FORM I PEST 1/87 Rev.

1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD412

Lab Name: SWL - TULSA  Contract: 68-01-7392

Lab Code: AATS  Case No.: 11739  SAS No.: _____  SDG No.: JD410

Matrix: (soil/water) WATER  Lab Sample ID: 25833

Sample wt/vol: 1000 (g/mL) ML  Lab File ID: 25833

Level: (low/med) LOW  Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____  Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT  Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N  pH: 7.8  Dilution Factor: 1.0

| 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 |
| 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 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

JDY 6-2-89

1C

# SEMIVOLATILE C  INICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD412

Lab Name: SWL - TULSA  Contract: 68-01-7392

Lab Code: AATS  Case No.: 11739  SAS No.: _____  SDG No.: JD410

Matrix: (soil/water) WATER  Lab Sample ID: 25833

Sample wt/vol: 1000 (g/mL) ML  Lab File ID: 25833

Level: (low/med) LOW  Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____  Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT  Date Analyzed: 05/02/89

GPC Cleanup: (Y/N) N  pH: 7.8  Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 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 | 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 |
| 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-Octyl Phthalate | 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 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

JDY 6-2-89

FORM I SV-2



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1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD412

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25833

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25833

Level: (low/med) LOW Date Received: 04/13/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Clearup: (Y/N) N pH: 7.8 Dilution Factor: 1.0

Number TICs found: 0

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

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

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PESTICIDE O D NICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD412

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25833

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/26/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 0.050 | U |
| 319-85-7 | beta-BHC | 0.050 | U |
| 319-86-8 | delta-BHC | 0.050 | U |
| 58-89-9 | gamma-BHC (Lindane) | 0.050 | U |
| 76-44-8 | Heptachlor | 0.050 | U |
| 309-00-2 | Aldrin | 0.050 | U |
| 1024-57-3 | Heptachlor epoxide | 0.050 | U |
| 959-98-8 | Endosulfan I | 0.050 | U |
| 60-57-1 | Dieldrin | 0.050 | U |
| 72-55-9 | 4,4'-DDE | 0.10 | U |
| 72-20-8 | Endrin | 0.10 | U |
| 33213-65-9 | Endosulfan II | 0.10 | U |
| 72-54-8 | 4,4'-DDD | 0.10 | U |
| 1031-07-8 | Endosulfan sulfate | 0.10 | U |
| 50-29-3 | 4,4'-DDT | 0.10 | U |
| 72-43-5 | Methoxychlor | 0.10 | U |
| 53494-70-5 | Endrin ketone | 0.50 | U |
| 5103-71-9 | alpha-Chlordane | 0.10 | U |
| 5103-74-2 | gamma-Chlordane | 0.50 | U |
| 8001-35-2 | Toxaphene | 0.50 | U |
| 12674-11-2 | Aroclor-1016 | 1.0 | U |
| 11104-28-2 | Aroclor-1221 | 0.50 | U |
| 11141-16-5 | Aroclor-1232 | 0.50 | U |
| 53469-21-9 | Aroclor-1242 | 0.50 | U |
| 12672-29-6 | Aroclor-1248 | 0.50 | U |
| 11097-69-1 | Aroclor-1254 | 0.50 | U |
| 11096-82-5 | Aroclor-1260 | 1.0 | U |
| | | 1.0 | U |

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD413

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25834

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25834

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | | 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 |
| 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 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

JCG 6-2-89



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1C

SEMIVOLATILE ANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD413

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25834

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25834

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | 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 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 |
| 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-Octyl Phthalate | 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 | Dibenz(a,h)Anthracene | 10 U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 U |

(1) - Cannot be separated from Diphenylamine

6-2-89

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD413

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25834

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25834

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/19/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.0

Number TICs found: 0

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

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

JDY 6-2-89

FORM I SV-TIC

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1D

# PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD413

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25834

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/26/89

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

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

| CAS NO. | COMPOUND | Q |
|---|---|---|
| 319-84-6 | alpha-BHC | 0.050 U |
| 319-85-7 | beta-BHC | 0.050 U |
| 319-86-8 | delta-BHC | 0.050 U |
| 58-89-9 | gamma-BHC (Lindane) | 0.050 U |
| 76-44-8 | Heptachlor | 0.050 U |
| 309-00-2 | Aldrin | 0.050 U |
| 1024-57-3 | Heptachlor epoxide | 0.050 U |
| 959-98-8 | Endosulfan I | 0.050 U |
| 60-57-1 | Dieldrin | 0.050 U |
| 72-55-9 | 4,4'-DDE | 0.10 U |
| 72-20-8 | Endrin | 0.10 U |
| 33213-65-9 | Endosulfan II | 0.10 U |
| 72-54-8 | 4,4'-DDD | 0.10 U |
| 1031-07-8 | Endosulfan sulfate | 0.10 U |
| 50-29-3 | 4,4'-DDT | 0.10 U |
| 72-43-5 | Methoxychlor | 0.10 U |
| 53494-70-5 | Endrin ketone | 0.50 U |
| 5103-71-9 | alpha-Chlordane | 0.10 U |
| 5103-74-2 | gamma-Chlordane | 0.50 U |
| 8001-35-2 | Toxaphene | 0.50 U |
| 12674-11-2 | Aroclor-1016 | 1.0 U |
| 11104-28-2 | Aroclor-1221 | 0.50 U |
| 11141-16-5 | Aroclor-1232 | 0.50 U |
| 53469-21-9 | Aroclor-1242 | 0.50 U |
| 12672-29-6 | Aroclor-1248 | 0.50 U |
| 11097-69-1 | Aroclor-1254 | 0.50 U |
| 11096-82-5 | Aroclor-1260 | 1.0 U |
| | | 1.0 U |

JWF 6-2-89

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1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD414

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25835

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25835

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 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 |
| 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 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

JDK 6-2-89



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SEMIVOLATILE ( ANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD414

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25835

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25835

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | |
|---|---|---|---|
| 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 | 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 |
| 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-Octyl Phthalate | 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 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

JDK 6-2-89

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD414

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: D410

Matrix: (soil/water) WATER Lab Sample ID: 25835

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25835

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.0

Number TICs found: 0

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

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

Jay 6-2-89

1D
PESTICIDE O NICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD414

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25835

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/26/89

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 0.050 | U |
| 319-85-7 | beta-BHC | 0.050 | U |
| 319-86-8 | delta-BHC | 0.050 | U |
| 58-89-9 | gamma-BHC (Lindane) | 0.050 | U |
| 76-44-8 | Heptachlor | 0.050 | U |
| 309-00-2 | Aldrin | 0.050 | U |
| 1024-57-3 | Heptachlor epoxide | 0.050 | U |
| 959-98-8 | Endosulfan I | 0.050 | U |
| 60-57-1 | Dieldrin | 0.10 | U |
| 72-55-9 | 4,4'-DDE | 0.10 | U |
| 72-20-8 | Endrin | 0.10 | U |
| 33213-65-9 | Endosulfan II | 0.10 | U |
| 72-54-8 | 4,4'-DDD | 0.10 | U |
| 1031-07-8 | Endosulfan sulfate | 0.10 | U |
| 50-29-3 | 4,4'-DDT | 0.10 | U |
| 72-43-5 | Methoxychlor | 0.50 | U |
| 53494-70-5 | Endrin ketone | 0.10 | U |
| 5103-71-9 | alpha-Chlordane | 0.50 | U |
| 5103-74-2 | gamma-Chlordane | 0.50 | U |
| 8001-35-2 | Toxaphene | 1.0 | U |
| 12674-11-2 | Aroclor-1016 | 0.50 | U |
| 11104-28-2 | Aroclor-1221 | 0.50 | U |
| 11141-16-5 | Aroclor-1232 | 0.50 | U |
| 53469-21-9 | Aroclor-1242 | 0.50 | U |
| 12672-29-6 | Aroclor-1248 | 0.50 | U |
| 11097-69-1 | Aroclor-1254 | 1.0 | U |
| 11096-82-5 | Aroclor-1260 | 1.0 | U |

6-2-89

FORM I PEST 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD415

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25836

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25836

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 108-95-2 | Phenol | 10 | U J |
| 111-44-4 | bis(2-Chloroethyl)Ether | 10 | U |
| 95-57-8 | 2-Chlorophenol | 10 | U J |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | U |
| 100-51-6 | Benzyl Alcohol | 10 | U J |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | U |
| 95-48-7 | 2-Methylphenol | 10 | U J |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 10 | U |
| 106-44-5 | 4-Methylphenol | 10 | U J |
| 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 J |
| 65-85-0 | Benzoic Acid | 50 | U J |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 10 | U |
| 120-83-2 | 2,4-Dichlorophenol | 10 | U J |
| 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 J |
| 91-57-6 | 2-Methylnaphthalene | 10 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 10 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 10 | U J |
| 95-95-4 | 2,4,5-Trichlorophenol | 50 | U J |
| 91-58-7 | 2-Chloronaphthalene | 10 | U |
| 88-74-4 | 2-Nitroaniline | 50 | U |
| 131-11-3 | Dimethyl Phthalate | 10 | U |
| 208-96-8 | Acenaphthylene | 10 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 10 | U |

JDY 6-2-89



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1C

# SEMIVOLATILE C NICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD415

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: ____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25836

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 25836

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | | 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 J |
| 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 J |
| 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 J |
| 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 |
| 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-Octyl Phthalate | 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 | Dibenz(a,h)Anthracene | 10 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 10 | U |

(1) - Cannot be separated from Diphenylamine

DOG 6-2-89



ecycled paper

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD415

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25836

Sample wt/vol: 1000 (g/mL) ML Lab File ID: C5836

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 05/03/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.0

Number TICs found: 0

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

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

JDC 6-2-89

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1D

# PESTICIDE C NICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD415

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) WATER Lab Sample ID: 25836

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

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. ____ dec. ____ Date Extracted: 04/18/89

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 04/27/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 0.050 | U |
| 319-85-7 | beta-BHC | 0.050 | U |
| 319-86-8 | delta-BHC | 0.050 | U |
| 58-89-9 | gamma-BHC (Lindane) | 0.050 | U |
| 76-44-8 | Heptachlor | 0.050 | U |
| 309-00-2 | Aldrin | 0.050 | U |
| 1024-57-3 | Heptachlor epoxide | 0.050 | U |
| 959-98-8 | Endosulfan I | 0.050 | U |
| 60-57-1 | Dieldrin | 0.10 | U |
| 72-55-9 | 4,4'-DDE | 0.10 | U |
| 72-20-8 | Endrin | 0.10 | U |
| 33213-65-9 | Endosulfan II | 0.10 | U |
| 72-54-8 | 4,4'-DDD | 0.10 | U |
| 1031-07-8 | Endosulfan sulfate | 0.10 | U |
| 50-29-3 | 4,4'-DDT | 0.10 | U |
| 72-43-5 | Methoxychlor | 0.50 | U |
| 53494-70-5 | Endrin ketone | 0.10 | U |
| 5103-71-9 | alpha-Chlordane | 0.50 | U |
| 5103-74-2 | gamma-Chlordane | 0.50 | U |
| 8001-35-2 | Toxaphene | 1.0 | U |
| 12674-11-2 | Aroclor-1016 | 0.50 | U |
| 11104-28-2 | Aroclor-1221 | 0.50 | U |
| 11141-16-5 | Aroclor-1232 | 0.50 | U |
| 53469-21-9 | Aroclor-1242 | 0.50 | U |
| 12672-29-6 | Aroclor-1248 | 0.50 | U |
| 11097-69-1 | Aroclor-1254 | 1.0 | U |
| 11096-82-5 | Aroclor-1260 | 1.0 | U |

Jay 6-2-89

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD416

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25837

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25837

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.5 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | Q | |
|---|---|---|---|
| 108-95-2 | Phenol | 730 | U J |
| 111-44-4 | bis(2-Chloroethyl)Ether | 730 | U |
| 95-57-8 | 2-Chlorophenol | 730 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 730 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 730 | U |
| 100-51-6 | Benzyl Alcohol | 730 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 730 | U |
| 95-48-7 | 2-Methylphenol | 730 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 730 | U |
| 106-44-5 | 4-Methylphenol | 730 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 730 | U |
| 67-72-1 | Hexachloroethane | 730 | U |
| 98-95-3 | Nitrobenzene | 730 | U |
| 78-59-1 | Isophorone | 730 | U |
| 88-75-5 | 2-Nitrophenol | 730 | U |
| 105-67-9 | 2,4-Dimethylphenol | 730 | U |
| 65-85-0 | Benzoic Acid | 3600 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 730 | U |
| 120-83-2 | 2,4-Dichlorophenol | 730 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 730 | U |
| 91-20-3 | Naphthalene | 730 | U |
| 106-47-8 | 4-Chloroaniline | 730 | U |
| 87-68-3 | Hexachlorobutadiene | 730 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 730 | U |
| 91-57-6 | 2-Methylnaphthalene | 730 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 730 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 730 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 3600 | U |
| 91-58-7 | 2-Chloronaphthalene | 730 | U |
| 88-74-4 | 2-Nitroaniline | 3600 | U |
| 131-11-3 | Dimethyl Phthalate | 730 | U |
| 208-96-8 | Acenaphthylene | 730 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 730 | U |

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1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD416

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25837

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25837

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.5 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 3600 | U J |
| 83-32-9 | Acenaphthene | 730 | U |
| 51-28-5 | 2,4-Dinitrophenol | 3600 | U |
| 100-02-7 | 4-Nitrophenol | 3600 | U |
| 132-64-9 | Dibenzofuran | 730 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 730 | U |
| 84-66-2 | Diethylphthalate | 730 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 730 | U |
| 86-73-7 | Fluorene | 730 | U |
| 100-01-6 | 4-Nitroaniline | 3600 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 3600 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 730 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 730 | U |
| 118-74-1 | Hexachlorobenzene | 730 | U |
| 87-86-5 | Pentachlorophenol | 3600 | U |
| 85-01-8 | Phenanthrene | 730 | U |
| 120-12-7 | Anthracene | 730 | U |
| 84-74-2 | Di-n-Butylphthalate | 730 | U |
| 206-44-0 | Fluoranthene | 730 | U |
| 129-00-0 | Pyrene | 730 | U |
| 85-68-7 | Butylbenzylphthalate | 730 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1500 | U |
| 56-55-3 | Benzo(a)Anthracene | 730 | U |
| 218-01-9 | Chrysene | 730 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 730 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 730 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 730 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 730 | U |
| 50-32-8 | Benzo(a)Pyrene | 730 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 730 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 730 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 730 | U |

(1) - Cannot be separated from Diphenylamine

JDY 6-21



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1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD416

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25837

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25837

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.5 Dilution Factor: 1.0

Number TICs found: 0

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

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

JDY 6-2-89



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1D
PESTICIDE OI VICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD416

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25837

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 10 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 8.9 | U J |
| 319-85-7 | beta-BHC | 8.9 | U |
| 319-86-8 | delta-BHC | 8.9 | U |
| 58-89-9 | gamma-BHC (Lindane) | 8.9 | U |
| 76-44-8 | Heptachlor | 8.9 | U |
| 309-00-2 | Aldrin | 8.9 | U |
| 1024-57-3 | Heptachlor epoxide | 8.9 | U |
| 959-98-8 | Endosulfan I | 8.9 | U |
| 60-57-1 | Dieldrin | 18 | U |
| 72-55-9 | 4,4'-DDE | 18 | U |
| 72-20-8 | Endrin | 18 | U |
| 33213-65-9 | Endosulfan II | 18 | U |
| 72-54-8 | 4,4'-DDD | 18 | U |
| 1031-07-8 | Endosulfan sulfate | 18 | U |
| 50-29-3 | 4,4'-DDT | 18 | U |
| 72-43-5 | Methoxychlor | 89 | U |
| 53494-70-5 | Endrin ketone | 18 | U |
| 5103-71-9 | alpha-Chlordane | 89 | U |
| 5103-74-2 | gamma-Chlordane | 89 | U |
| 8001-35-2 | Toxaphene | 180 | U |
| 12674-11-2 | Aroclor-1016 | 89 | U |
| 11104-28-2 | Aroclor-1221 | 89 | U |
| 11141-16-5 | Aroclor-1232 | 89 | U |
| 53469-21-9 | Aroclor-1242 | 89 | U |
| 12672-29-6 | Aroclor-1248 | 89 | U |
| 11097-69-1 | Aroclor-1254 | 180 | U |
| 11096-82-5 | Aroclor-1260 | 180 | U |

6-2-89

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD417

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25838

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25838

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 710 | U J |
| 111-44-4 | bis(2-Chloroethyl)Ether | 710 | U |
| 95-57-8 | 2-Chlorophenol | 710 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 710 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 710 | U |
| 100-51-6 | Benzyl Alcohol | 710 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 710 | U |
| 95-48-7 | 2-Methylphenol | 710 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 710 | U |
| 106-44-5 | 4-Methylphenol | 710 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 710 | U |
| 67-72-1 | Hexachloroethane | 710 | U |
| 98-95-3 | Nitrobenzene | 710 | U |
| 78-59-1 | Isophorone | 710 | U |
| 88-75-5 | 2-Nitrophenol | 710 | U |
| 105-67-9 | 2,4-Dimethylphenol | 710 | U |
| 65-85-0 | Benzoic Acid | 3400 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 710 | U |
| 120-83-2 | 2,4-Dichlorophenol | 710 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 710 | U |
| 91-20-3 | Naphthalene | 710 | U |
| 106-47-8 | 4-Chloroaniline | 710 | U |
| 87-68-3 | Hexachlorobutadiene | 710 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 710 | U |
| 91-57-6 | 2-Methylnaphthalene | 710 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 710 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 710 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 3400 | U |
| 91-58-7 | 2-Chloronaphthalene | 710 | U |
| 88-74-4 | 2-Nitroaniline | 3400 | U |
| 131-11-3 | Dimethyl Phthalate | 710 | U |
| 208-96-8 | Acenaphthylene | 710 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 710 | U |

Joy 5-89

1C

# SEMIVOLATILE ( ANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD417

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25833

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25838

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 3400 | U |
| 83-32-9 | Acenaphthene | 710 | U |
| 51-28-5 | 2,4-Dinitrophenol | 3400 | U |
| 100-02-7 | 4-Nitrophenol | 3400 | U |
| 132-64-9 | Dibenzofuran | 710 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 710 | U |
| 84-66-2 | Diethylphthalate | 710 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 710 | U |
| 86-73-7 | Fluorene | 710 | U |
| 100-01-6 | 4-Nitroaniline | 3400 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 3400 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 710 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 710 | U |
| 118-74-1 | Hexachlorobenzene | 710 | U |
| 87-86-5 | Pentachlorophenol | 3400 | U |
| 85-01-8 | Phenanthrene | 710 | U |
| 120-12-7 | Anthracene | 710 | U |
| 84-74-2 | Di-n-Butylphthalate | 710 | U |
| 206-44-0 | Fluoranthene | 710 | U |
| 129-00-0 | Pyrene | 710 | U |
| 85-68-7 | Butylbenzylphthalate | 710 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1400 | U |
| 56-55-3 | Benzo(a)Anthracene | 710 | U |
| 218-01-9 | Chrysene | 710 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 710 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 710 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 710 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 710 | U |
| 50-32-8 | Benzo(a)Pyrene | 710 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 710 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 710 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 710 | U |

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

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1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD417

Job Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25838

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25838

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.8 Dilution Factor: 1.0

Number TICs found: 0

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

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

JDY 6-2-89

1D
PESTICIDE O NICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD417

ab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25838

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 8 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 8.7 | U J |
| 319-85-7 | beta-BHC | 8.7 | U |
| 319-86-8 | delta-BHC | 8.7 | U |
| 58-89-9 | gamma-BHC (Lindane) | 8.7 | U |
| 76-44-8 | Heptachlor | 8.7 | U |
| 309-00-2 | Aldrin | 8.7 | U |
| 1024-57-3 | Heptachlor epoxide | 8.7 | U |
| 959-98-8 | Endosulfan I | 8.7 | U |
| 60-57-1 | Dieldrin | 17 | U |
| 72-55-9 | 4,4'-DDE | 17 | U |
| 72-20-8 | Endrin | 17 | U |
| 33213-65-9 | Endosulfan II | 17 | U |
| 72-54-8 | 4,4'-DDD | 17 | U |
| 1031-07-8 | Endosulfan sulfate | 17 | U |
| 50-29-3 | 4,4'-DDT | 17 | U |
| 72-43-5 | Methoxychlor | 87 | U |
| 53494-70-5 | Endrin ketone | 17 | U |
| 5103-71-9 | alpha-Chlordane | 87 | U |
| 5103-74-2 | gamma-Chlordane | 87 | U |
| 8001-35-2 | Toxaphene | 170 | U |
| 12674-11-2 | Aroclor-1016 | 87 | U |
| 11104-28-2 | Aroclor-1221 | 87 | U |
| 11141-16-5 | Aroclor-1232 | 87 | U |
| 53469-21-9 | Aroclor-1242 | 87 | U |
| 12672-29-6 | Aroclor-1248 | 87 | U |
| 11097-69-1 | Aroclor-1254 | 170 | U |
| 11096-82-5 | Aroclor-1260 | 170 | U |

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1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD418

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25839

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25839

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 6 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 700 | U J |
| 111-44-4 | bis(2-Chloroethyl)Ether | 700 | U |
| 95-57-8 | 2-Chlorophenol | 700 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 700 | U |
| 106-46-7 | 1.4-Dichlorobenzene | 700 | U |
| 100-51-6 | Benzyl Alcohol | 700 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 700 | U |
| 95-48-7 | 2-Methylphenol | 700 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 700 | U |
| 106-44-5 | 4-Methylphenol | 700 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 700 | U |
| 67-72-1 | Hexachloroethane | 700 | U |
| 98-95-3 | Nitrobenzene | 700 | U |
| 78-59-1 | Isophorone | 700 | U |
| 88-75-5 | 2-Nitrophenol | 700 | U |
| 105-67-9 | 2,4-Dimethylphenol | 700 | U |
| 65-85-0 | Benzoic Acid | 3400 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 700 | U |
| 120-83-2 | 2,4-Dichlorophenol | 700 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 700 | U |
| 91-20-3 | Naphthalene | 700 | U |
| 106-47-8 | 4-Chloroaniline | 700 | U |
| 87-68-3 | Hexachlorobutadiene | 700 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 700 | U |
| 91-57-6 | 2-Methylnaphthalene | 700 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 700 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 700 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 3400 | U |
| 91-58-7 | 2-Chloronaphthalene | 700 | U |
| 88-74-4 | 2-Nitroaniline | 3400 | U |
| 131-11-3 | Dimethyl Phthalate | 700 | U |
| 208-96-8 | Acenaphthylene | 700 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 700 | U |

JD4 2/89



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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD418

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25839

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25839

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 6 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | 0 | |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 3400 | U J |
| 83-32-9 | Acenaphthene | 700 | U |
| 51-28-5 | 2,4-Dinitrophenol | 3400 | U |
| 100-02-7 | 4-Nitrophenol | 3400 | U |
| 132-64-9 | Dibenzofuran | 700 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 700 | U |
| 84-66-2 | Diethylphthalate | 700 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 700 | U |
| 86-73-7 | Fluorene | 700 | U |
| 100-01-6 | 4-Nitroaniline | 3400 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 3400 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 700 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 700 | U |
| 118-74-1 | Hexachlorobenzene | 700 | U |
| 87-86-5 | Pentachlorophenol | 3400 | U |
| 85-01-8 | Phenanthrene | 700 | U |
| 120-12-7 | Anthracene | 700 | U |
| 84-74-2 | Di-n-Butylphthalate | 700 | U |
| 206-44-0 | Fluoranthene | 700 | U |
| 129-00-0 | Pyrene | 700 | U |
| 85-68-7 | Butylbenzylphthalate | 700 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1400 | U |
| 56-55-3 | Benzo(a)Anthracene | 700 | U |
| 218-01-9 | Chrysene | 700 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 380 | J |
| 117-84-0 | Di-n-Octyl Phthalate | 700 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 700 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 700 | U |
| 50-32-8 | Benzo(a)Pyrene | 700 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 700 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 700 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 700 | U |

(1) - Cannot be separated from Diphenylamine

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD418

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25839

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25839

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 6 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

Number TICs found: 19

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN HYDROCARBON | 17.95 | 1200 | J |
| 2. | UNKNOWN COMPOUND | 18.57 | 1200 | J |
| 3. | UNKNOWN HYDROCARBON | 18.74 | 1100 | J |
| 4. | UNKNOWN COMPOUND | 19.40 | 1700 | J |
| 5. | UNKNOWN COMPOUND | 19.52 | 1000 | J |
| 6. | UNKNOWN COMPOUND | 19.67 | 1700 | J |
| 7. | UNKNOWN COMPOUND | 20.07 | 1100 | J |
| 8. | UNKNOWN HYDROCARBON | 20.59 | 2800 | J |
| 9. | UNKNOWN COMPOUND | 20.87 | 2000 | J |
| 10. | UNKNOWN HYDROCARBON | 21.74 | 630 | J |
| 11. | UNKNOWN COMPOUND | 21.82 | 740 | J |
| 12. | UNKNOWN COMPOUND | 22.72 | 590 | J |
| 13. | UNKNOWN COMPOUND | 25.02 | 640 | J |
| 14. | UNKNOWN COMPOUND | 25.26 | 730 | J |
| 15. | UNKNOWN COMPOUND | 25.64 | 990 | J |
| 16. | UNKNOWN COMPOUND | 25.91 | 1000 | J |
| 17. | UNKNOWN COMPOUND | 26.17 | 4900 | J |
| 18. | UNKNOWN COMPOUND | 26.46 | 1300 | J |
| 19. | UNKNOWN COMPOUND | 27.31 | 1100 | J |

JDY 6-2-89



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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD418

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25839

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 6 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 5.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 43 | U J |
| 319-85-7 | beta-BHC | 43 | U |
| 319-86-8 | delta-BHC | 43 | U |
| 58-89-9 | gamma-BHC (Lindane) | 43 | U |
| 76-44-8 | Heptachlor | 43 | U |
| 309-00-2 | Aldrin | 43 | U |
| 1024-57-3 | Heptachlor epoxide | 43 | U |
| 959-98-8 | Endosulfan I | 43 | U |
| 60-57-1 | Dieldrin | 43 | U |
| 72-55-9 | 4,4'-DDE | 85 | U |
| 72-20-8 | Endrin | 85 | U |
| 33213-65-9 | Endosulfan II | 85 | U |
| 72-54-8 | 4,4'-DDD | 85 | U |
| 1031-07-8 | Endosulfan sulfate | 85 | U |
| 50-29-3 | 4,4'-DDT | 85 | U |
| 72-43-5 | Methoxychlor | 85 | U R |
| 53494-70-5 | Endrin ketone | 430 | U J |
| 5103-71-9 | alpha-Chlordane | 85 | U |
| 5103-74-2 | gamma-Chlordane | 430 | U |
| 8001-35-2 | Toxaphene | 430 | U |
| 12674-11-2 | Aroclor-1016 | 850 | U |
| 11104-28-2 | Aroclor-1221 | 430 | U |
| 11141-16-5 | Aroclor-1232 | 430 | U |
| 53469-21-9 | Aroclor-1242 | 430 | U |
| 12672-29-6 | Aroclor-1248 | 430 | U |
| 11097-69-1 | Aroclor-1254 | 430 | U |
| 11096-82-5 | Aroclor-1260 | 850 | U |
| | | 4600 | J |

JDU86-2

FORM I PEST 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD419

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25840

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25840

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 710 | U J |
| 111-44-4 | bis(2-Chloroethyl)Ether | 710 | U |
| 95-57-8 | 2-Chlorophenol | 710 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 710 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 710 | U |
| 100-51-6 | Benzyl Alcohol | 710 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 710 | U |
| 95-48-7 | 2-Methylphenol | 710 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 710 | U |
| 106-44-5 | 4-Methylphenol | 710 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 710 | U |
| 67-72-1 | Hexachloroethane | 710 | U |
| 98-95-3 | Nitrobenzene | 710 | U |
| 78-59-1 | Isophorone | 710 | U |
| 88-75-5 | 2-Nitrophenol | 710 | U |
| 105-67-9 | 2,4-Dimethylphenol | 710 | U |
| 65-85-0 | Benzoic Acid | 3400 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 710 | U |
| 120-83-2 | 2,4-Dichlorophenol | 710 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 710 | U |
| 91-20-3 | Naphthalene | 710 | U |
| 106-47-8 | 4-Chloroaniline | 710 | U |
| 87-68-3 | Hexachlorobutadiene | 710 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 710 | U |
| 91-57-6 | 2-Methylnaphthalene | 710 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 710 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 710 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 3400 | U |
| 91-58-7 | 2-Chloronaphthalene | 710 | U |
| 88-74-4 | 2-Nitroaniline | 3400 | U |
| 131-11-3 | Dimethyl Phthalate | 710 | U |
| 208-96-8 | Acenaphthylene | 710 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 710 | U |

FORM I SV-1

1C

# SEMIVOLATILE ( ANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD419

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25840

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25840

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | Q | |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 3400 | U J |
| 83-32-9 | Acenaphthene | 710 | U |
| 51-28-5 | 2,4-Dinitrophenol | 3400 | U |
| 100-02-7 | 4-Nitrophenol | 3400 | U |
| 132-64-9 | Dibenzofuran | 710 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 710 | U |
| 84-66-2 | Diethylphthalate | 710 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 710 | U |
| 86-73-7 | Fluorene | 710 | U |
| 100-01-6 | 4-Nitroaniline | 3400 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 3400 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 710 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 710 | U |
| 118-74-1 | Hexachlorobenzene | 710 | U |
| 87-86-5 | Pentachlorophenol | 3400 | U |
| 85-01-8 | Phenanthrene | 710 | U |
| 120-12-7 | Anthracene | 710 | U |
| 84-74-2 | Di-n-Butylphthalate | 710 | U |
| 206-44-0 | Fluoranthene | 710 | U |
| 129-00-0 | Pyrene | 710 | U |
| 85-68-7 | Butylbenzylphthalate | 710 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1400 | U |
| 56-55-3 | Benzo(a)Anthracene | 710 | U |
| 218-01-9 | Chrysene | 710 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 390 | J |
| 117-84-0 | Di-n-Octyl Phthalate | 710 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 710 | U J |
| 207-08-9 | Benzo(k)Fluoranthene | 710 | U |
| 50-32-8 | Benzo(a)Pyrene | 710 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 710 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 710 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 710 | U |

(1) - Cannot be separated from Diphenylamine

JD4 6-7-8

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD419

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25840

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25840

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 7 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.0

Number TICs found: 21

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN HYDROCARBON | 17.97 | 1500 | J |
| 2. | UNKNOWN COMPOUND | 18.37 | 880 | J |
| 3. | UNKNOWN COMPOUND | 18.59 | 1200 | J |
| 4. | UNKNOWN COMPOUND | 18.67 | 930 | J |
| 5. | UNKNOWN COMPOUND | 19.05 | 1700 | J |
| 6. | UNKNOWN HYDROCARBON | 19.22 | 1000 | J |
| 7. | UNKNOWN COMPOUND | 19.32 | 1000 | J |
| 8. | UNKNOWN HYDROCARBON | 19.40 | 2000 | J |
| 9. | UNKNOWN COMPOUND | 19.55 | 1400 | J |
| 10. | UNKNOWN COMPOUND | 19.70 | 2300 | J |
| 11. | UNKNOWN COMPOUND | 20.09 | 980 | J |
| 12. | UNKNOWN HYDROCARBON | 20.60 | 2400 | J |
| 13. | UNKNOWN COMPOUND | 20.89 | 1800 | J |
| 14. | UNKNOWN COMPOUND | 21.85 | 770 | J |
| 15. | UNKNOWN COMPOUND | 25.42 | 750 | J |
| 16. | UNKNOWN COMPOUND | 25.66 | 1000 | J |
| 17. | UNKNOWN COMPOUND | 25.94 | 1300 | J |
| 18. | UNKNOWN COMPOUND | 26.17 | 4000 | J |
| 19. | UNKNOWN COMPOUND | 26.47 | 1300 | J |
| 20. | UNKNOWN COMPOUND | 27.06 | 820 | J |
| 21. | UNKNOWN COMPOUND | 27.12 | 900 | J |

JDY 6-2-89



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PESTICIDE ORG ICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD419

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25840

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 8 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 5.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 43 | U J |
| 319-85-7 | beta-BHC | 43 | U |
| 319-86-8 | delta-BHC | 43 | U |
| 58-89-9 | gamma-BHC (Lindane) | 43 | U |
| 76-44-8 | Heptachlor | 43 | U |
| 309-00-2 | Aldrin | 43 | U |
| 1024-57-3 | Heptachlor epoxide | 43 | U |
| 959-98-8 | Endosulfan I | 43 | U |
| 60-57-1 | Dieldrin | 87 | U |
| 72-55-9 | 4,4'-DDE | 87 | U |
| 72-20-8 | Endrin | 87 | U |
| 33213-65-9 | Endosulfan II | 87 | U |
| 72-54-8 | 4,4'-DDD | 87 | U |
| 1031-07-8 | Endosulfan sulfate | 87 | U |
| 50-29-3 | 4,4'-DDT | 87 | U |
| 72-43-5 | Methoxychlor | 430 | U |
| 53494-70-5 | Endrin ketone | 87 | U |
| 5103-71-9 | alpha-Chlordane | 430 | U |
| 5103-74-2 | gamma-Chlordane | 430 | U |
| 8001-35-2 | Toxaphene | 870 | U |
| 12674-11-2 | Aroclor-1016 | 430 | U |
| 11104-28-2 | Aroclor-1221 | 430 | U |
| 11141-16-5 | Aroclor-1232 | 430 | U |
| 53469-21-9 | Aroclor-1242 | 430 | U |
| 12672-29-6 | Aroclor-1248 | 430 | U |
| 11097-69-1 | Aroclor-1254 | 870 | U |
| 11096-82-5 | Aroclor-1260 | 5200 | |

Joy 6-2-8

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD420

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25841

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25841

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 5 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | Q |
|---|---|---|
| 108-95-2 | Phenol | 690 U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 690 U |
| 95-57-8 | 2-Chlorophenol | 690 U |
| 541-73-1 | 1,3-Dichlorobenzene | 690 U |
| 106-46-7 | 1,4-Dichlorobenzene | 690 U |
| 100-51-6 | Benzyl Alcohol | 690 U |
| 95-50-1 | 1,2-Dichlorobenzene | 690 U |
| 95-48-7 | 2-Methylphenol | 690 U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 690 U |
| 106-44-5 | 4-Methylphenol | 690 U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 690 U |
| 67-72-1 | Hexachloroethane | 690 U |
| 98-95-3 | Nitrobenzene | 690 U |
| 78-59-1 | Isophorone | 690 U |
| 88-75-5 | 2-Nitrophenol | 690 U |
| 105-67-9 | 2,4-Dimethylphenol | 690 U |
| 65-85-0 | Benzoic Acid | 3400 U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 690 U |
| 120-83-2 | 2,4-Dichlorophenol | 690 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 690 U |
| 91-20-3 | Naphthalene | 690 U |
| 106-47-8 | 4-Chloroaniline | 690 U |
| 87-68-3 | Hexachlorobutadiene | 690 U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 690 U |
| 91-57-6 | 2-Methylnaphthalene | 690 U |
| 77-47-4 | Hexachlorocyclopentadiene | 690 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 690 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 3400 U |
| 91-58-7 | 2-Chloronaphthalene | 690 U |
| 88-74-4 | 2-Nitroaniline | 3400 U |
| 131-11-3 | Dimethyl Phthalate | 690 U |
| 208-96-8 | Acenaphthylene | 690 U |
| 606-20-2 | 2,6-Dinitrotoluene | 690 U |

J04 2-8

1C

SEMIVOLATILE O NICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD420

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25841

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25841

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 5 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 3400 | U J |
| 83-32-9 | Acenaphthene | 690 | U |
| 51-28-5 | 2,4-Dinitrophenol | 3400 | U |
| 100-02-7 | 4-Nitrophenol | 3400 | U |
| 132-64-9 | Dibenzofuran | 690 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 690 | U |
| 84-66-2 | Diethylphthalate | 690 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 690 | U |
| 86-73-7 | Fluorene | 690 | U |
| 100-01-6 | 4-Nitroaniline | 3400 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 3400 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 690 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 690 | U |
| 118-74-1 | Hexachlorobenzene | 690 | U |
| 87-86-5 | Pentachlorophenol | 3400 | U |
| 85-01-8 | Phenanthrene | 690 | U |
| 120-12-7 | Anthracene | 690 | U |
| 84-74-2 | Di-n-Butylphthalate | 690 | U |
| 206-44-0 | Fluoranthene | 690 | U |
| 129-00-0 | Pyrene | 690 | U |
| 85-68-7 | Butylbenzylphthalate | 690 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1400 | U |
| 56-55-3 | Benzo(a)Anthracene | 690 | U |
| 218-01-9 | Chrysene | 690 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 790 | |
| 117-84-0 | Di-n-Octyl Phthalate | 690 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 690 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 690 | U |
| 50-32-8 | Benzo(a)Pyrene | 690 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 690 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 690 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 690 | U |

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD420

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25841

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25841

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 5 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.6 Dilution Factor: 1.0

Number TICs found: 20

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN COMPOUND | | 1000 | J |
| 2. | UNKNOWN HYDROCARBON | 17.97 | 1300 | J |
| 3. | UNKNOWN COMPOUND | 18.65 | 1200 | J |
| 4. | UNKNOWN HYDROCARBON | 18.75 | 1400 | J |
| 5. | UNKNOWN COMPOUND | 19.05 | 630 | J |
| 6. | UNKNOWN COMPOUND | 19.20 | 1200 | J |
| 7. | UNKNOWN HYDROCARBON | 19.44 | 1300 | J |
| 8. | UNKNOWN COMPOUND | 19.55 | 980 | J |
| 9. | UNKNOWN HYDROCARBON | 19.72 | 1300 | J |
| 10. | UNKNOWN COMPOUND | 20.09 | 1400 | J |
| 11. | UNKNOWN HYDROCARBON | 20.39 | 990 | J |
| 12. | UNKNOWN HYDROCARBON | 20.60 | 2400 | J |
| 13. | UNKNOWN COMPOUND | 20.89 | 1300 | J |
| 14. | UNKNOWN HYDROCARBON | 21.72 | 690 | J |
| 15. | UNKNOWN COMPOUND | 21.85 | 950 | J |
| 16. | UNKNOWN PNA | 22.45 | 530 | J |
| 17. | UNKNOWN COMPOUND | 25.64 | 770 | J |
| 18. | UNKNOWN COMPOUND | 25.92 | 940 | J |
| 19. | UNKNOWN COMPOUND | 26.17 | 3200 | J |
| 20. | UNKNOWN COMPOUND | 26.47 | 1000 | J |

JDK 6-2-89

1D
PESTICIDE OI VICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD420

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25841

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 5 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 5.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 42 | U J |
| 319-85-7 | beta-BHC | 42 | U |
| 319-86-8 | delta-BHC | 42 | U |
| 58-89-9 | gamma-BHC (Lindane) | 42 | U |
| 76-44-8 | Heptachlor | 42 | U |
| 309-00-2 | Aldrin | 42 | U |
| 1024-57-3 | Heptachlor epoxide | 42 | U |
| 959-98-8 | Endosulfan I | 42 | U |
| 60-57-1 | Dieldrin | 42 | U |
| 72-55-9 | 4,4'-DDE | 84 | U |
| 72-20-8 | Endrin | 84 | U |
| 33213-65-9 | Endosulfan II | 84 | U |
| 72-54-8 | 4,4'-DDD | 84 | U |
| 1031-07-8 | Endosulfan sulfate | 84 | U |
| 50-29-3 | 4,4'-DDT | 84 | U |
| 72-43-5 | Methoxychlor | 84 | U R |
| 53494-70-5 | Endrin ketone | 420 | U J |
| 5103-71-9 | alpha-Chlordane | 84 | U |
| 5103-74-2 | gamma-Chlordane | 420 | U |
| 8001-35-2 | Toxaphene | 420 | U |
| 12674-11-2 | Aroclor-1016 | 840 | U |
| 11104-28-2 | Aroclor-1221 | 420 | U |
| 11141-16-5 | Aroclor-1232 | 420 | U |
| 53469-21-9 | Aroclor-1242 | 420 | U |
| 12672-29-6 | Aroclor-1248 | 420 | U |
| 11097-69-1 | Aroclor-1254 | 420 | U |
| 11096-82-5 | Aroclor-1260 | 840 | U |
| | | 3100 | J |

DK 6-2-89

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD421

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25842

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25842

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 800 | U J |
| 111-44-4 | bis(2-Chloroethyl)Ether | 800 | U |
| 95-57-8 | 2-Chlorophenol | 800 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 800 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 800 | U |
| 100-51-6 | Benzyl Alcohol | 800 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 800 | U |
| 95-48-7 | 2-Methylphenol | 800 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 800 | U |
| 106-44-5 | 4-Methylphenol | 800 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 800 | U |
| 67-72-1 | Hexachloroethane | 800 | U |
| 98-95-3 | Nitrobenzene | 800 | U |
| 78-59-1 | Isophorone | 800 | U |
| 88-75-5 | 2-Nitrophenol | 800 | U |
| 105-67-9 | 2,4-Dimethylphenol | 800 | U |
| 65-85-0 | Benzoic Acid | 800 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 800 | U |
| 120-83-2 | 2,4-Dichlorophenol | 800 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 800 | U |
| 91-20-3 | Naphthalene | 800 | U |
| 106-47-8 | 4-Chloroaniline | 800 | U |
| 87-68-3 | Hexachlorobutadiene | 800 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 800 | U |
| 91-57-6 | 2-Methylnaphthalene | 300 | J |
| 77-47-4 | Hexachlorocyclopentadiene | 800 | U J |
| 88-06-2 | 2,4,6-Trichlorophenol | 800 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 3900 | U |
| 91-58-7 | 2-Chloronaphthalene | 800 | U |
| 88-74-4 | 2-Nitroaniline | 3900 | U |
| 131-11-3 | Dimethyl Phthalate | 800 | U |
| 208-96-8 | Acenaphthylene | 800 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 800 | U |

JDK 6-7-89

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1C

# SEMIVOLATILE C...NICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD421

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25841

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25842

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 3900 | UJ |
| 83-32-9 | Acenaphthene | 800 | U |
| 51-28-5 | 2,4-Dinitrophenol | 3900 | U |
| 100-02-7 | 4-Nitrophenol | 3900 | U |
| 132-64-9 | Dibenzofuran | 800 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 800 | U |
| 84-66-2 | Diethylphthalate | 800 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 800 | U |
| 86-73-7 | Fluorene | 800 | U |
| 100-01-6 | 4-Nitroaniline | 3900 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 3900 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 800 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 800 | U |
| 118-74-1 | Hexachlorobenzene | 800 | U |
| 87-86-5 | Pentachlorophenol | 3900 | U |
| 85-01-8 | Phenanthrene | 800 | U |
| 120-12-7 | Anthracene | 800 | U |
| 84-74-2 | Di-n-Butylphthalate | 800 | U |
| 206-44-0 | Fluoranthene | 800 | U |
| 129-00-0 | Pyrene | 800 | U |
| 85-68-7 | Butylbenzylphthalate | 800 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1600 | U |
| 56-55-3 | Benzo(a)Anthracene | 800 | U |
| 218-01-9 | Chrysene | 800 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 450 | J |
| 117-84-0 | Di-n-Octyl Phthalate | 800 | U J |
| 205-99-2 | Benzo(b)Fluoranthene | 800 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 800 | U |
| 50-32-8 | Benzo(a)Pyrene | 800 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 800 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 800 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 800 | U |

(1) - Cannot be separated from Diphenylamine

JDY 6-2-89

1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD421

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25842

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25642

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

Number TICs found: 21

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN COMPOUND | 18.54 | 970 | J |
| 2. | UNKNOWN COMPOUND | 19.09 | 1300 | J |
| 3. | UNKNOWN COMPOUND | 19.30 | 810 | J |
| 4. | UNKNOWN COMPOUND | 19.39 | 1100 | J |
| 5. | UNKNOWN COMPOUND | 19.74 | 1300 | J |
| 6. | UNKNOWN COMPOUND | 20.02 | 1400 | J |
| 7. | UNKNOWN COMPOUND | 20.87 | 1200 | J |
| 8. | UNKNOWN COMPOUND | 22.02 | 490 | J |
| 9. | UNKNOWN COMPOUND | 22.45 | 600 | J |
| 10. | UNKNOWN COMPOUND | 24.40 | 530 | J |
| 11. | UNKNOWN COMPOUND | 25.09 | 830 | J |
| 12. | UNKNOWN COMPOUND | 25.44 | 820 | J |
| 13. | UNKNOWN COMPOUND | 25.66 | 850 | J |
| 14. | UNKNOWN COMPOUND | 25.76 | 540 | J |
| 15. | UNKNOWN COMPOUND | 25.95 | 1300 | J |
| 16. | UNKNOWN COMPOUND | 26.17 | 4500 | J |
| 17. | UNKNOWN HYDROCARBON | 26.34 | 1300 | J |
| 18. | UNKNOWN HYDROCARBON | 26.52 | 2100 | J |
| 19. | UNKNOWN COMPOUND | 27.12 | 940 | J |
| 20. | UNKNOWN COMPOUND | 27.79 | 790 | J |
| 21. | UNKNOWN COMPOUND | 28.41 | 1000 | J |

DH 6-2-89



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JD421

Name: SWL - TULSA Contract: 68-..7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25842

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 9.8 | U J |
| 319-85-7 | beta-BHC | 9.8 | U |
| 319-86-8 | delta-BHC | 9.8 | U |
| 58-89-9 | gamma-BHC (Lindane) | 9.8 | U |
| 76-44-8 | Heptachlor | 9.8 | U |
| 309-00-2 | Aldrin | 9.8 | U |
| 1024-57-3 | Heptachlor epoxide | 9.8 | U |
| 959-98-8 | Endosulfan I | 9.8 | U |
| 60-57-1 | Dieldrin | 20 | U |
| 72-55-9 | 4,4'-DDE | 20 | U |
| 72-20-8 | Endrin | 20 | U |
| 33213-65-9 | Endosulfan II | 20 | U |
| 72-54-8 | 4,4'-DDD | 20 | U |
| 1031-07-8 | Endosulfan sulfate | 20 | U |
| 50-29-3 | 4,4'-DDT | 20 | U R |
| 72-43-5 | Methoxychlor | 98 | U J |
| 53494-70-5 | Endrin ketone | 20 | U |
| 5103-71-9 | alpha-Chlordane | 98 | U |
| 5103-74-2 | gamma-Chlordane | 98 | U |
| 8001-35-2 | Toxaphene | 200 | U |
| 12674-11-2 | Aroclor-1016 | 98 | U |
| 11104-28-2 | Aroclor-1221 | 98 | U |
| 11141-16-5 | Aroclor-1232 | 98 | U |
| 53469-21-9 | Aroclor-1242 | 98 | U |
| 12672-29-6 | Aroclor-1248 | 98 | U |
| 11097-69-1 | Aroclor-1254 | 200 | U |
| 11096-82-5 | Aroclor-1260 | 600 | J |

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1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD838

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 23843

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25843

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 19 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.4 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 810 | U J |
| 111-44-4 | bis(2-Chloroethyl)Ether | 810 | U |
| 95-57-8 | 2-Chlorophenol | 810 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 810 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 810 | U |
| 100-51-6 | Benzyl Alcohol | 810 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 810 | U |
| 95-48-7 | 2-Methylphenol | 810 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 810 | U |
| 106-44-5 | 4-Methylphenol | 810 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 810 | U |
| 67-72-1 | Hexachloroethane | 810 | U |
| 98-95-3 | Nitrobenzene | 810 | U |
| 78-59-1 | Isophorone | 810 | U |
| 88-75-5 | 2-Nitrophenol | 810 | U |
| 105-67-9 | 2,4-Dimethylphenol | 810 | U |
| 65-85-0 | Benzoic Acid | 4000 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 810 | U |
| 120-83-2 | 2,4-Dichlorophenol | 810 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 810 | U |
| 91-20-3 | Naphthalene | 810 | U |
| 106-47-8 | 4-Chloroaniline | 810 | U |
| 87-68-3 | Hexachlorobutadiene | 810 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 810 | U |
| 91-57-6 | 2-Methylnaphthalene | 810 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 810 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 810 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 4000 | U |
| 91-58-7 | 2-Chloronaphthalene | 810 | U |
| 88-74-4 | 2-Nitroaniline | 4000 | U |
| 131-11-3 | Dimethyl Phthalate | 810 | U |
| 208-96-8 | Acenaphthylene | 810 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 810 | U |



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1C

# SEMIVOLATILE C...NICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD838

Lab Name: SWL - TULSA  Contract: 68-01-7392

Lab Code: AATS  Case No.: 11739  SAS No.: _____  SDG No.: JD410

Matrix: (soil/water) SOIL  Lab Sample ID: 25843

Sample wt/vol: 30.0 (g/mL) G  Lab File ID: 25843

Level: (low/med) LOW  Date Received: 04/15/89

% Moisture: not dec. 19  dec. ____  Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC  Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y  pH: 6.4  Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 4000 | U J |
| 83-32-9 | Acenaphthene | 810 | U |
| 51-28-5 | 2,4-Dinitrophenol | 4000 | U |
| 100-02-7 | 4-Nitrophenol | 4000 | U |
| 132-64-9 | Dibenzofuran | 810 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 810 | U |
| 84-66-2 | Diethylphthalate | 810 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 810 | U |
| 86-73-7 | Fluorene | 810 | U |
| 100-01-6 | 4-Nitroaniline | 4000 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 4000 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 810 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 810 | U |
| 118-74-1 | Hexachlorobenzene | 810 | U |
| 87-86-5 | Pentachlorophenol | 4000 | U |
| 85-01-8 | Phenanthrene | 810 | U |
| 120-12-7 | Anthracene | 810 | U |
| 84-74-2 | Di-n-Butylphthalate | 810 | U |
| 206-44-0 | Fluoranthene | 810 | U |
| 129-00-0 | Pyrene | 810 | U |
| 85-68-7 | Butylbenzylphthalate | 810 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1600 | U |
| 56-55-3 | Benzo(a)Anthracene | 810 | U |
| 218-01-9 | Chrysene | 810 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 170 | J |
| 117-84-0 | Di-n-Octyl Phthalate | 810 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 810 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 810 | U |
| 50-32-8 | Benzo(a)Pyrene | 810 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 810 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 810 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 810 | U |

(1) - Cannot be separated from Diphenylamine

JDY 6-2-8

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD838

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25843

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25843

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 19 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.4 Dilution Factor: 1.0

Number TICs found: 14

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN COMPOUND | 20.05 | 340 | J |
| 2. | UNKNOWN HYDROCARBON | 21.19 | 500 | J |
| 3. | UNKNOWN HYDROCARBON | 21.29 | 790 | J |
| 4. | UNKNOWN HYDROCARBON | 21.74 | 1400 | J |
| 5. | UNKNOWN HYDROCARBON | 21.89 | 1100 | J |
| 6. | UNKNOWN HYDROCARBON | 22.12 | 390 | J |
| 7. | UNKNOWN HYDROCARBON | 22.37 | 1500 | J |
| 8. | UNKNOWN HYDROCARBON | 22.50 | 590 | J |
| 9. | UNKNOWN COMPOUND | 22.59 | 340 | J |
| 10. | UNKNOWN COMPOUND | 22.72 | 550 | J |
| 11. | UNKNOWN HYDROCARBON | 24.14 | 520 | J |
| 12. | UNKNOWN COMPOUND | 26.19 | 910 | J |
| 13. | UNKNOWN HYDROCARBON | 26.54 | 1200 | J |
| 14. | UNKNOWN HYDROCARBON | 28.41 | 460 | J |

JDK 6-2-89



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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD838

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25843

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 19 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 5.00

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 49 | UJ |
| 319-85-7 | beta-BHC | 49 | U |
| 319-86-8 | delta-BHC | 49 | U |
| 58-89-9 | gamma-BHC (Lindane) | 49 | U |
| 76-44-8 | Heptachlor | 49 | U |
| 309-00-2 | Aldrin | 49 | U |
| 1024-57-3 | Heptachlor epoxide | 49 | U |
| 959-98-8 | Endosulfan I | 49 | U |
| 60-57-1 | Dieldrin | 99 | U |
| 72-55-9 | 4,4'-DDE | 99 | U |
| 72-20-8 | Endrin | 99 | U |
| 33213-65-9 | Endosulfan II | 99 | U |
| 72-54-8 | 4,4'-DDD | 99 | U |
| 1031-07-8 | Endosulfan sulfate | 99 | U |
| 50-29-3 | 4,4'-DDT | 99 | UR |
| 72-43-5 | Methoxychlor | 490 | UJ |
| 53494-70-5 | Endrin ketone | 99 | U |
| 5103-71-9 | alpha-Chlordane | 490 | U |
| 5103-74-2 | gamma-Chlordane | 490 | U |
| 8001-35-2 | Toxaphene | 990 | U |
| 12674-11-2 | Aroclor-1016 | 490 | U |
| 11104-28-2 | Aroclor-1221 | 490 | U |
| 11141-16-5 | Aroclor-1232 | 490 | U |
| 53469-21-9 | Aroclor-1242 | 490 | U |
| 12672-29-6 | Aroclor-1248 | 490 | U |
| 11097-69-1 | Aroclor-1254 | 1700 | J |
| 11096-82-5 | Aroclor-1260 | 990 | UJ |

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD839

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25844

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25844

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 830 | U |
| 111-44-4 | bis(2-Chloroethyl)Ether | 830 | U |
| 95-57-8 | 2-Chlorophenol | 830 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 830 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 830 | U |
| 100-51-6 | Benzyl Alcohol | 830 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 830 | U |
| 95-48-7 | 2-Methylphenol | 830 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 830 | U |
| 106-44-5 | 4-Methylphenol | 830 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 830 | U |
| 67-72-1 | Hexachloroethane | 830 | U |
| 98-95-3 | Nitrobenzene | 830 | U |
| 78-59-1 | Isophorone | 830 | U |
| 88-75-5 | 2-Nitrophenol | 830 | U |
| 105-67-9 | 2,4-Dimethylphenol | 830 | U |
| 65-85-0 | Benzoic Acid | 4000 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 830 | U |
| 120-83-2 | 2,4-Dichlorophenol | 830 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 830 | U |
| 91-20-3 | Naphthalene | 830 | U |
| 106-47-8 | 4-Chloroaniline | 830 | U |
| 87-68-3 | Hexachlorobutadiene | 830 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 830 | U |
| 91-57-6 | 2-Methylnaphthalene | 830 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 830 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 830 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 4000 | U |
| 91-58-7 | 2-Chloronaphthalene | 830 | U |
| 88-74-4 | 2-Nitroaniline | 4000 | U |
| 131-11-3 | Dimethyl Phthalate | 830 | U |
| 208-96-8 | Acenaphthylene | 830 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 830 | U |

JDY 6-2-89



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1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD839

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25844

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25844

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 4000 | U J |
| 83-32-9 | Acenaphthene | 830 | U |
| 51-28-5 | 2,4-Dinitrophenol | 4000 | U |
| 100-02-7 | 4-Nitrophenol | 4000 | U |
| 132-64-9 | Dibenzofuran | 830 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 830 | U |
| 84-66-2 | Diethylphthalate | 830 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 830 | U |
| 86-73-7 | Fluorene | 830 | U |
| 100-01-6 | 4-Nitroaniline | 4000 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 4000 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 830 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 830 | U |
| 118-74-1 | Hexachlorobenzene | 830 | U |
| 87-86-5 | Pentachlorophenol | 4000 | U |
| 85-01-8 | Phenanthrene | 830 | U |
| 120-12-7 | Anthracene | 830 | U |
| 84-74-2 | Di-n-Butylphthalate | 830 | U |
| 206-44-0 | Fluoranthene | 830 | U |
| 129-00-0 | Pyrene | 830 | U |
| 85-68-7 | Butylbenzylphthalate | 830 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1700 | U |
| 56-55-3 | Benzo(a)Anthracene | 830 | U |
| 218-01-9 | Chrysene | 830 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 830 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 830 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 830 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 830 | U |
| 50-32-8 | Benzo(a)Pyrene | 830 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 830 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 830 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 830 | U |

(1) - Cannot be separated from Diphenylamine

JDG 6-2-89



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1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD839

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: OATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25844

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25844

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 20 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

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

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

JDH 6-2-89



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1D
PESTICIDE OI VICS ANALYSIS DATA SHEET

EPA SAMPLE NO

JD839

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25844

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 21 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 10 | U R |
| 319-85-7 | beta-BHC | 10 | U |
| 319-86-8 | delta-BHC | 10 | U |
| 58-89-9 | gamma-BHC (Lindane) | 10 | U |
| 76-44-8 | Heptachlor | 10 | U |
| 309-00-2 | Aldrin | 10 | U |
| 1024-57-3 | Heptachlor epoxide | 10 | U |
| 959-98-8 | Endosulfan I | 10 | U |
| 60-57-1 | Dieldrin | 20 | U |
| 72-55-9 | 4,4'-DDE | 20 | U |
| 72-20-8 | Endrin | 20 | U |
| 33213-65-9 | Endosulfan II | 20 | U |
| 72-54-8 | 4,4'-DDD | 20 | U |
| 1031-07-8 | Endosulfan sulfate | 20 | U |
| 50-29-3 | 4,4'-DDT | 20 | U |
| 72-43-5 | Methoxychlor | 100 | U |
| 53494-70-5 | Endrin ketone | 20 | U |
| 5103-71-9 | alpha-Chlordane | 100 | U |
| 5103-74-2 | gamma-Chlordane | 100 | U |
| 8001-35-2 | Toxaphene | 200 | U |
| 12674-11-2 | Aroclor-1016 | 100 | U |
| 11104-28-2 | Aroclor-1221 | 100 | U |
| 11141-16-5 | Aroclor-1232 | 100 | U |
| 53469-21-9 | Aroclor-1242 | 100 | U |
| 12672-29-6 | Aroclor-1248 | 100 | U |
| 11097-69-1 | Aroclor-1254 | 200 | U |
| 11096-82-5 | Aroclor-1260 | 200 | U |

JDK 6-2-89



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ecology and environment

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD840

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 23845

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25845

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 21 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 840 | U J |
| 111-44-4 | bis(2-Chloroethyl)Ether | 840 | U |
| 95-57-8 | 2-Chlorophenol | 840 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 840 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 840 | U |
| 100-51-6 | Benzyl Alcohol | 840 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 840 | U |
| 95-48-7 | 2-Methylphenol | 840 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 840 | U |
| 106-44-5 | 4-Methylphenol | 840 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 840 | U |
| 67-72-1 | Hexachloroethane | 840 | U |
| 98-95-3 | Nitrobenzene | 840 | U |
| 78-59-1 | Isophorone | 840 | U |
| 88-75-5 | 2-Nitrophenol | 840 | U |
| 105-67-9 | 2,4-Dimethylphenol | 840 | U |
| 65-85-0 | Benzoic Acid | 4100 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 840 | U |
| 120-83-2 | 2,4-Dichlorophenol | 840 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 840 | U |
| 91-20-3 | Naphthalene | 840 | U |
| 106-47-8 | 4-Chloroaniline | 840 | U |
| 87-68-3 | Hexachlorobutadiene | 840 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 840 | U |
| 91-57-6 | 2-Methylnaphthalene | 840 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 840 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 840 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 4100 | U |
| 91-58-7 | 2-Chloronaphthalene | 840 | U |
| 88-74-4 | 2-Nitroaniline | 4100 | U |
| 131-11-3 | Dimethyl Phthalate | 840 | U |
| 208-96-8 | Acenaphthylene | 840 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 840 | U |

JDK 6-2-89

1C

SEMIVOLATILE ( ANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD840

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25845

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25845

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 21 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 4100 | U |
| 83-32-9 | Acenaphthene | 840 | U |
| 51-28-5 | 2,4-Dinitrophenol | 4100 | U |
| 100-02-7 | 4-Nitrophenol | 4100 | U |
| 132-64-9 | Dibenzofuran | 840 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 840 | U |
| 84-66-2 | Diethylphthalate | 840 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 840 | U |
| 86-73-7 | Fluorene | 840 | U |
| 100-01-6 | 4-Nitroaniline | 4100 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 4100 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 840 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 840 | U |
| 118-74-1 | Hexachlorobenzene | 840 | U |
| 87-86-5 | Pentachlorophenol | 4100 | U |
| 85-01-8 | Phenanthrene | 840 | U |
| 120-12-7 | Anthracene | 840 | U |
| 84-74-2 | Di-n-Butylphthalate | 840 | U |
| 206-44-0 | Fluoranthene | 840 | U |
| 129-00-0 | Pyrene | 840 | U |
| 85-68-7 | Butylbenzylphthalate | 840 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1700 | U |
| 56-55-3 | Benzo(a)Anthracene | 840 | U |
| 218-01-9 | Chrysene | 840 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 840 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 840 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 840 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 840 | U |
| 50-32-8 | Benzo(a)Pyrene | 840 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 840 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 840 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 840 | U |

(1) - Cannot be separated from Diphenylamine

JDY 6-2-8

FORM I SV-2



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1F

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD840

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25845

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25845

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 21 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 1.0

Number TICs found: 0

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

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

JDG 6-2-89

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PESTICIDE ..JANICS ANALYSIS DATA SHEE.

EPA SAMPLE N

JD840

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25845

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 21 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 10 | U |
| 319-85-7 | beta-BHC | 10 | U |
| 319-86-8 | delta-BHC | 10 | U |
| 58-89-9 | gamma-BHC (Lindane) | 10 | U |
| 76-44-8 | Heptachlor | 10 | U |
| 309-00-2 | Aldrin | 10 | U |
| 1024-57-3 | Heptachlor epoxide | 10 | U |
| 959-98-8 | Endosulfan I | 10 | U |
| 60-57-1 | Dieldrin | 10 | U |
| 72-55-9 | 4,4'-DDE | 20 | U |
| 72-20-8 | Endrin | 20 | U |
| 33213-65-9 | Endosulfan II | 20 | U |
| 72-54-8 | 4,4'-DDD | 20 | U |
| 1031-07-8 | Endosulfan sulfate | 20 | U |
| 50-29-3 | 4,4'-DDT | 20 | U |
| 72-43-5 | Methoxychlor | 20 | U |
| 53494-70-5 | Endrin ketone | 100 | U |
| 5103-71-9 | alpha-Chlordane | 20 | U |
| 5103-74-2 | gamma-Chlordane | 100 | U |
| 8001-35-2 | Toxaphene | 100 | U |
| 12674-11-2 | Aroclor-1016 | 200 | U |
| 11104-28-2 | Aroclor-1221 | 100 | U |
| 11141-16-5 | Aroclor-1232 | 100 | U |
| 53469-21-9 | Aroclor-1242 | 100 | U |
| 12672-29-6 | Aroclor-1248 | 100 | U |
| 11097-69-1 | Aroclor-1254 | 100 | U |
| 11096-82-5 | Aroclor-1260 | 200 | U |
| | | 200 | U |

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD941

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25846

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25846

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 28 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.7 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 108-95-2 | Phenol | 920 | U J |
| 111-44-4 | bis(2-Chloroethyl)Ether | 920 | U |
| 95-57-8 | 2-Chlorophenol | 920 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 920 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 920 | U |
| 100-51-6 | Benzyl Alcohol | 920 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 920 | U |
| 95-48-7 | 2-Methylphenol | 920 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 920 | U |
| 106-44-5 | 4-Methylphenol | 920 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 920 | U |
| 67-72-1 | Hexachloroethane | 920 | U |
| 98-95-3 | Nitrobenzene | 920 | U |
| 78-59-1 | Isophorone | 920 | U |
| 88-75-5 | 2-Nitrophenol | 920 | U |
| 105-67-9 | 2,4-Dimethylphenol | 920 | U |
| 65-85-0 | Benzoic Acid | 4400 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 920 | U |
| 120-83-2 | 2,4-Dichlorophenol | 920 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 920 | U |
| 91-20-3 | Naphthalene | 920 | U |
| 106-47-8 | 4-Chloroaniline | 920 | U |
| 87-68-3 | Hexachlorobutadiene | 920 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 920 | U |
| 91-57-6 | 2-Methylnaphthalene | 920 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 920 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 920 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 4400 | U |
| 91-58-7 | 2-Chloronaphthalene | 920 | U |
| 88-74-4 | 2-Nitroaniline | 4400 | U |
| 131-11-3 | Dimethyl Phthalate | 920 | U |
| 208-96-8 | Acenaphthylene | 920 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 920 | U |

FORM I SV-1



JDY 6-7-89

1C

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD841

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25846

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 15816

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 28 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.7 Dilution Factor: 1.0

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

| CAS NO. | COMPOUND | | |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 4400 | U J |
| 83-32-9 | Acenaphthene | 920 | U |
| 51-28-5 | 2,4-Dinitrophenol | 4400 | U |
| 100-02-7 | 4-Nitrophenol | 4400 | U |
| 132-64-9 | Dibenzofuran | 920 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 920 | U |
| 84-66-2 | Diethylphthalate | 920 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 920 | U |
| 86-73-7 | Fluorene | 920 | U |
| 100-01-6 | 4-Nitroaniline | 920 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 4400 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 4400 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 920 | U |
| 118-74-1 | Hexachlorobenzene | 920 | U |
| 87-86-5 | Pentachlorophenol | 920 | U |
| 85-01-8 | Phenanthrene | 4400 | U |
| 120-12-7 | Anthracene | 920 | U |
| 84-74-2 | Di-n-Butylphthalate | 920 | U |
| 206-44-0 | Fluoranthene | 920 | U |
| 129-00-0 | Pyrene | 920 | U |
| 85-68-7 | Butylbenzylphthalate | 920 | U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 920 | U |
| 56-55-3 | Benzo(a)Anthracene | 1800 | U |
| 218-01-9 | Chrysene | 920 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 920 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 920 | U |
| 205-99-2 | Benzo(b)Fluoranthene | 920 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 920 | U |
| 50-32-8 | Benzo(a)Pyrene | 920 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 920 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 920 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 920 | U |

(1) - Cannot be separated from Diphenylamine

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD941

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 45846

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25816

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 28 dec. ____ Date Extracted: 04/25/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.7 Dilution Factor: 1.0

Number TICs found: 2

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

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | UNKNOWN COMPOUND | 6.03 | 750 | J |
| 2. | UNKNOWN HYDROCARBON | 26.52 | 1200 | J |

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1D
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EPA SAMPLE

JD841

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25846

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 29 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 11 | U R |
| 319-85-7 | beta-BHC | 11 | U |
| 319-86-8 | delta-BHC | 11 | U |
| 58-89-9 | gamma-BHC (Lindane) | 11 | U |
| 76-44-8 | Heptachlor | 11 | U |
| 309-00-2 | Aldrin | 11 | U |
| 1024-57-3 | Heptachlor epoxide | 11 | U |
| 959-98-8 | Endosulfan I | 11 | U |
| 60-57-1 | Dieldrin | 23 | U |
| 72-55-9 | 4,4'-DDE | 23 | U |
| 72-20-8 | Endrin | 23 | U |
| 33213-65-9 | Endosulfan II | 23 | U |
| 72-54-8 | 4,4'-DDD | 23 | U |
| 1031-07-8 | Endosulfan sulfate | 23 | U |
| 50-29-3 | 4,4'-DDT | 23 | U |
| 72-43-5 | Methoxychlor | 110 | U |
| 53494-70-5 | Endrin ketone | 23 | U |
| 5103-71-9 | alpha-Chlordane | 110 | U |
| 5103-74-2 | gamma-Chlordane | 110 | U |
| 8001-35-2 | Toxaphene | 230 | U |
| 12674-11-2 | Aroclor-1016 | 110 | U |
| 11104-28-2 | Aroclor-1221 | 110 | U |
| 11141-16-5 | Aroclor-1232 | 110 | U |
| 53469-21-9 | Aroclor-1242 | 110 | U |
| 12672-29-6 | Aroclor-1248 | 110 | U |
| 11097-69-1 | Aroclor-1254 | 230 | U |
| 11096-82-5 | Aroclor-1260 | 230 | U |

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

35842

Lab Name: SWL - TULSA Contract: 68-01-7582

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: 10410

Matrix: (soil/water) SOIL Lab Sample ID: 25847

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25847

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 04/20/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/1[illegible]/89

GPC Cleanup: (Y/N) Y pH: 6.0 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | |
|---|---|---|---|
| 108-95-2 | Phenol | 800 | U J |
| 111-44-4 | bis(2-Chloroethyl)Ether | 800 | U |
| 95-57-8 | 2-Chlorophenol | 800 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 800 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 800 | U |
| 100-51-6 | Benzyl Alcohol | 800 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 800 | U |
| 95-48-7 | 2-Methylphenol | 800 | U |
| 108-60-1 | bis(2-Chloroisopropyl)Ether | 800 | U |
| 106-44-5 | 4-Methylphenol | 800 | U |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 800 | U |
| 67-72-1 | Hexachloroethane | 800 | U |
| 98-95-3 | Nitrobenzene | 800 | U |
| 78-59-1 | Isophorone | 800 | U |
| 88-75-5 | 2-Nitrophenol | 800 | U |
| 105-67-9 | 2,4-Dimethylphenol | 800 | U |
| 65-85-0 | Benzoic Acid | 3900 | U |
| 111-91-1 | bis(2-Chloroethoxy)Methane | 800 | U |
| 120-83-2 | 2,4-Dichlorophenol | 800 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 800 | U |
| 91-20-3 | Naphthalene | 800 | U |
| 106-47-8 | 4-Chloroaniline | 800 | U |
| 87-68-3 | Hexachlorobutadiene | 800 | U |
| 59-50-7 | 4-Chloro-3-Methylphenol | 800 | U |
| 91-57-6 | 2-Methylnaphthalene | 800 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 800 | U |
| 88-06-2 | 2,4,6-Trichlorophenol | 800 | U |
| 95-95-4 | 2,4,5-Trichlorophenol | 3900 | U |
| 91-58-7 | 2-Chloronaphthalene | 800 | U |
| 88-74-4 | 2-Nitroaniline | 3900 | U |
| 131-11-3 | Dimethyl Phthalate | 800 | U |
| 208-96-8 | Acenaphthylene | 800 | U |
| 606-20-2 | 2,6-Dinitrotoluene | 800 | U |

JDY 6-2-89

1C
SEMIVOLATILE O NICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD842

Lab Name: SWL - TULSA Contract: 68-01-7392

Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25847

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25847

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) Y pH: 6.0 Dilution Factor: 1.0

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 3900 | U J |
| 83-32-9 | Acenaphthene | 800 | U |
| 51-28-5 | 2,4-Dinitrophenol | 3900 | U |
| 100-02-7 | 4-Nitrophenol | 3900 | U |
| 132-64-9 | Dibenzofuran | 800 | U |
| 121-14-2 | 2,4-Dinitrotoluene | 800 | U |
| 84-66-2 | Diethylphthalate | 800 | U |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 800 | U |
| 86-73-7 | Fluorene | 800 | U |
| 100-01-6 | 4-Nitroaniline | 3900 | U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 3900 | U |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 800 | U |
| 101-55-3 | 4-Bromophenyl-phenylether | 800 | U |
| 118-74-1 | Hexachlorobenzene | 800 | U |
| 87-86-5 | Pentachlorophenol | 3900 | U |
| 85-01-8 | Phenanthrene | 800 | U |
| 120-12-7 | Anthracene | 800 | U |
| 84-74-2 | Di-n-Butylphthalate | 800 | U |
| 206-44-0 | Fluoranthene | 800 | U |
| 129-00-0 | Pyrene | 800 | U |
| 85-68-7 | Butylbenzylphthalate | 250 | J |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1600 | U |
| 56-55-3 | Benzo(a)Anthracene | 800 | U |
| 218-01-9 | Chrysene | 800 | U |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 800 | U |
| 117-84-0 | Di-n-Octyl Phthalate | 310 | J |
| 205-99-2 | Benzo(b)Fluoranthene | 800 | U |
| 207-08-9 | Benzo(k)Fluoranthene | 800 | U |
| 50-32-8 | Benzo(a)Pyrene | 800 | U |
| 193-39-5 | Indeno(1,2,3-cd)Pyrene | 800 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 800 | U |
| 191-24-2 | Benzo(g,h,i)Perylene | 800 | U |

(1) - Cannot be separated from Diphenylamine

JDY 6-2-

FORM I SV-2 1/87 Rev.

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# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JD842

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25847

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 25847

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 17 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/11/89

GPC Cleanup: (Y/N) Y pH: 6.0 Dilution Factor: 1.0

Number TICs found: 14

CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC | Q |
|---|---|---|---|---|
| 1. | UNKNOWN COMPOUND | 3.93 | 330 | J |
| 2. | UNKNOWN COMPOUND | 4.43 | 540 | J |
| 3. | UNKNOWN COMPOUND | 4.57 | 420 | J |
| 4. | UNKNOWN COMPOUND | 4.78 | 380 | J |
| 5. | UNKNOWN COMPOUND | 5.47 | 320 | J |
| 6. | UNKNOWN COMPOUND | 6.02 | 430 | J |
| 7. | UNKNOWN COMPOUND | 6.50 | 310 | J |
| 8. | UNKNOWN COMPOUND | 25.14 | 580 | J |
| 9. | UNKNOWN COMPOUND | 25.99 | 560 | J |
| 10. | UNKNOWN HYDROCARBON | 26.54 | 2000 | J |
| 11. | UNKNOWN PHTHALATE | 26.86 | 340 | J |
| 12. | UNKNOWN HYDROCARBON | 28.47 | 2200 | J |
| 13. | UNKNOWN COMPOUND | 31.72 | 1300 | J |
| 14. | UNKNOWN COMPOUND | 34.21 | 230 | J |

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JD842

Lab Name: SWL - TULSA Contract: 68-01-7392

Lab Code: AATS Case No.: 11739 SAS No.: _____ SDG No.: JD410

Matrix: (soil/water) SOIL Lab Sample ID: 25847

Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 04/15/89

% Moisture: not dec. 18 dec. ____ Date Extracted: 04/26/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05/10/89

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG | Q |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 9.8 | U |
| 319-85-7 | beta-BHC | 9.8 | U |
| 319-86-8 | delta-BHC | 9.8 | U |
| 58-89-9 | gamma-BHC (Lindane) | 9.8 | U |
| 76-44-8 | Heptachlor | 9.8 | U |
| 309-00-2 | Aldrin | 9.8 | U |
| 1024-57-3 | Heptachlor epoxide | 9.8 | U |
| 959-98-8 | Endosulfan I | 9.8 | U |
| 60-57-1 | Dieldrin | 20 | U |
| 72-55-9 | 4,4'-DDE | 20 | U |
| 72-20-8 | Endrin | 20 | U |
| 33213-65-9 | Endosulfan II | 20 | U |
| 72-54-8 | 4,4'-DDD | 20 | U |
| 1031-07-8 | Endosulfan sulfate | 20 | U |
| 50-29-3 | 4,4'-DDT | 20 | U |
| 72-43-5 | Methoxychlor | 98 | U |
| 53494-70-5 | Endrin ketone | 20 | U |
| 5103-71-9 | alpha-Chlordane | 98 | U |
| 5103-74-2 | gamma-Chlordane | 98 | U |
| 8001-35-2 | Toxaphene | 200 | U |
| 12674-11-2 | Aroclor-1016 | 98 | U |
| 11104-28-2 | Aroclor-1221 | 98 | U |
| 11141-16-5 | Aroclor-1232 | 98 | U |
| 53469-21-9 | Aroclor-1242 | 98 | U |
| 12672-29-6 | Aroclor-1248 | 98 | U |
| 11097-69-1 | Aroclor-1254 | 200 | U |
| 11096-82-5 | Aroclor-1260 | 200 | U |

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JDY 6-2-89

# POLYCHLORINATED BIPHENYL SCREENING RESULTS

MAGNUM SALVAGE/HORIZON VEHICLES
ALBANY, OREGON

TDD F10-8903-002
PAN F0R0222SC

Investigation Date: April 1989

FIT Analytical Team: Tracy Yerian and David Ikeda

Report Date: May 1989

Submitted to: John E. Osborn, Regional Project Officer
Field Operations and Technical Support Branch
U.S. Environmental Protection Agency
Region X
Seattle, Washington

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International Specialists in the Environment

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## 1.0 INTRODUCTION

Analytical screening of 38 soil samples, collected at Magnum Salvage/Horizon Vehicles, was performed by Ecology and Environment, Inc. (E & E) Field Investigation Team (FIT) chemists under Technical Directive Document (TDD) F10-8903-002, utilizing the E & E base laboratory in Seattle, Washington. The samples were screened for polychlorinated biphenyls (PCBs) to acquire analytical data as an integral part of the Screening Site Inspection (SSI). In addition, six quality control samples were analyzed to monitor analytical method performance and to ensure data validity.

Samples were analyzed using Field Analytical Support Project (FASP) techniques detailed in Section 2.0 of this report. As required by the USEPA Region X, FASP data are annotated with the data qualifier "F" indicating that FASP methodologies were employed to generate the data. As such, qualitative data is defined as tentatively identified and quantitative data should be interpreted as estimated quantities.

Samples were screened for the following polychlorinated biphenyls:

| | | |
|---|---|---|
| Polychlorinated Biphenyls: | Aroclor 1016 | Aroclor 1248 |
| | Aroclor 1221 | Aroclor 1254 |
| | Aroclor 1232 | Aroclor 1260 |
| | Aroclor 1242 | |

The samples were received at the laboratory April 14, 1989. All soil samples were extracted April 17 and 18, 1989, and quantitation analysis were performed within 6 days of extraction.

## 2.0 FIELD SCREENING METHODOLOGY FOR POLYCHLORINATED BIPHENYLS

### 2.1 Sample Preparation Methods

The sample extraction technique for PCBs in soil is as follows:

1) Add 2 to 3 grams of soil to a tared and labeled culture tube, weigh and record to the nearest .01 g.

2) Add 1 mL of nanograde methanol to the culture tube.

3) Vortex for 30 seconds to break dry soil clods.

4) Add 10.00 mL nanograde hexane to the culture tube.

5) Vortex for 60 seconds.

6) Transfer a 3- to 5-mL aliquot of the hexane layer to a second, labeled culture tube.

7) Add 1.0 mL concentrated sulfuric acid.

8) Vortex for 60 seconds.

9) Centrifuge for 60 seconds.

10) Transfer a 2- to 4-mL aliquot of the hexane layer to a third, labeled culture tube.

11) Inject sample.

## 2.2 Sample Analysis

The solvent flush injection technique was used for the polychlorinated biphenyl quantitation and confirmation analyses. Two microliters of nanograde hexane, 0.5 µL of air, and 2 µL of sample were drawn into a 10-µL syringe and immediately injected into a Shimadzu GC Mini-2 equipped with an Electron Capture Detector (ECD).

## 2.3 Instrument Parameters

### 2.3.1 Quantitation Column

| | |
|---|---|
| Instrument: | Shimadzu GC Mini-2 with ECD |
| Integrator: | Shimadzu Chromatopac C-R3A Data Processor |
| Column: | 1.8m x 3mm 1.5% SP-2250/1.95% SP-2401 |
| Carrier Gas: | Ultrapure 5% methane in argon - flow 40 mL/min. |
| Oven: | 225°C - Isothermal |
| Detector/Injector: | 250°C |
| Injection Volume: | 2 microliters |
| G.C. Analysis Time: | 25 minutes |

### 2.3.2 Confirmation Column

| | |
|---|---|
| Instrument: | Shimadzu GC Mini-2 with ECD |
| Integrator: | Shimadzu Chromatopac C-R3A Data Processor |
| Column: | 1.8m x 3mm 3% OV-1 on 100/120 Supelcoport |
| Carrier Gas: | Ultrapure 5% methane in argon - flow 40 mL/min. |
| Oven: | 225°C - Isothermal |
| Detector/Injector: | 250°C |
| Injection Volume: | 2 microliters |
| G.C. Analysis Time: | 30 minutes |

## 2.4 Sample Quantitation

### 2.4.1 Initial Calibration

Samples were quantitated using the external standard method. Aroclor 1254 standards were prepared by dilution of a primary standard.

Prior to sample analysis, an initial calibration was performed to obtain detector calibration factors (CFs), using the following equation:

$$CF = \frac{\text{Standard Peak Area}}{\text{Concentration of Standard Injected}}$$

During the initial calibration, CFs were determined by generating a three point calibration curve of Aroclor 1254. Standard concentrations of 0.5 ppm, 1.0 ppm, and 5.0 ppm were selected to bracket expected sample extract concentrations. To ensure detector linearity, the percent relative standard deviation (%RSD) for the CFs, as calculated by the equation below, was confirmed as less than 25 percent.

$$\% \text{ RSD} = \frac{\text{CF Standard Deviation}}{\text{Mean CF}} \times 100$$

A one point calibration of 1.0 ppm was performed for all other Aroclors detected (or suspected) in the samples.

2.4.2 Continuing Calibration

A continuing calibration was performed daily to ensure detector stability and to generate a CF for sample quantitation. A 1.0 ppm Aroclor 1254 standard was injected in the gas chromatograph and the new CF calculated. The percent differences (%D) between the CF for the continuing calibration standards and the mean CF ($\overline{CF}$) for the initial calibration standards, were calculated using the following equation:

$$\%D = \frac{\overline{CF} - CF}{\frac{\overline{CF} + CF}{2}} \times 100$$

CFs stored in the integrator were updated with new values daily unless the %D between the new CF and the $\overline{CF}$ exceeded 25 percent. When this occurred, a new initial calibration was performed.

2.4.3 Sample Analysis

Following instrument calibration, a 2.0-µL aliquot of the hexane extract was injected into the GC for analysis. The time required for chromatographic analysis to ensure all compounds had eluted off the column was 25 to 30 minutes.

Sample and standard chromatograms were printed out on the integrator at the end of each run. Aroclors were identified utilizing peak pattern matching of sample and standard chromatograms. If a pattern was identified as a specific PCB, the sum of peak areas was used to compute the concentration by the following equation:

Solid samples:

$$\text{Conc. } (\mu g/kg) = \frac{\text{Sum of Peak Areas} \times \text{Extract Volume } (\mu L) \times \text{Dilution Factor}}{\text{CF} \times \text{Sample Weight (g)} \times \text{Injection Volume } (\mu L) \times \text{Number of Peaks}}$$

The integrator can be programmed to make all or part of these calculations. An injection volume of 2 µL, a sample weight of 2.0 grams, and an extract volume of 10 mL was programmed into the integrator. Five peaks were selected for each Aroclor that was quantitated. Areas were corrected by the analyst to actual sample weight and dilution factor. Qualitative identifications were based on retention times compared to known standards analyzed under the same analytical conditions. If the PCB concentration PCB in the sample exceeded the concentration of the highest standard, the sample extract was diluted with hexane and reanalyzed.

## 2.5 Example of Standard PCB Chromatograms

### 2.5.1 Quantitation Column

Examples of Aroclor 1242 (Figure 2.1), Aroclor 1248 (Figure 2.2), Aroclor 1254 (Figure 2.3), and Aroclor 1260 (Figure 2.4) using the quantitation column are shown on pages 5 through 7.

### 2.5.2 Confirmation Column

Examples of Aroclor 1242 (Figure 2.5), Aroclor 1248 (Figure 2.6), Aroclor 1254 (Figure 2.7), and Aroclor 1260 (Figure 2.8) using the confirmation column are shown on pages 8 through 10.

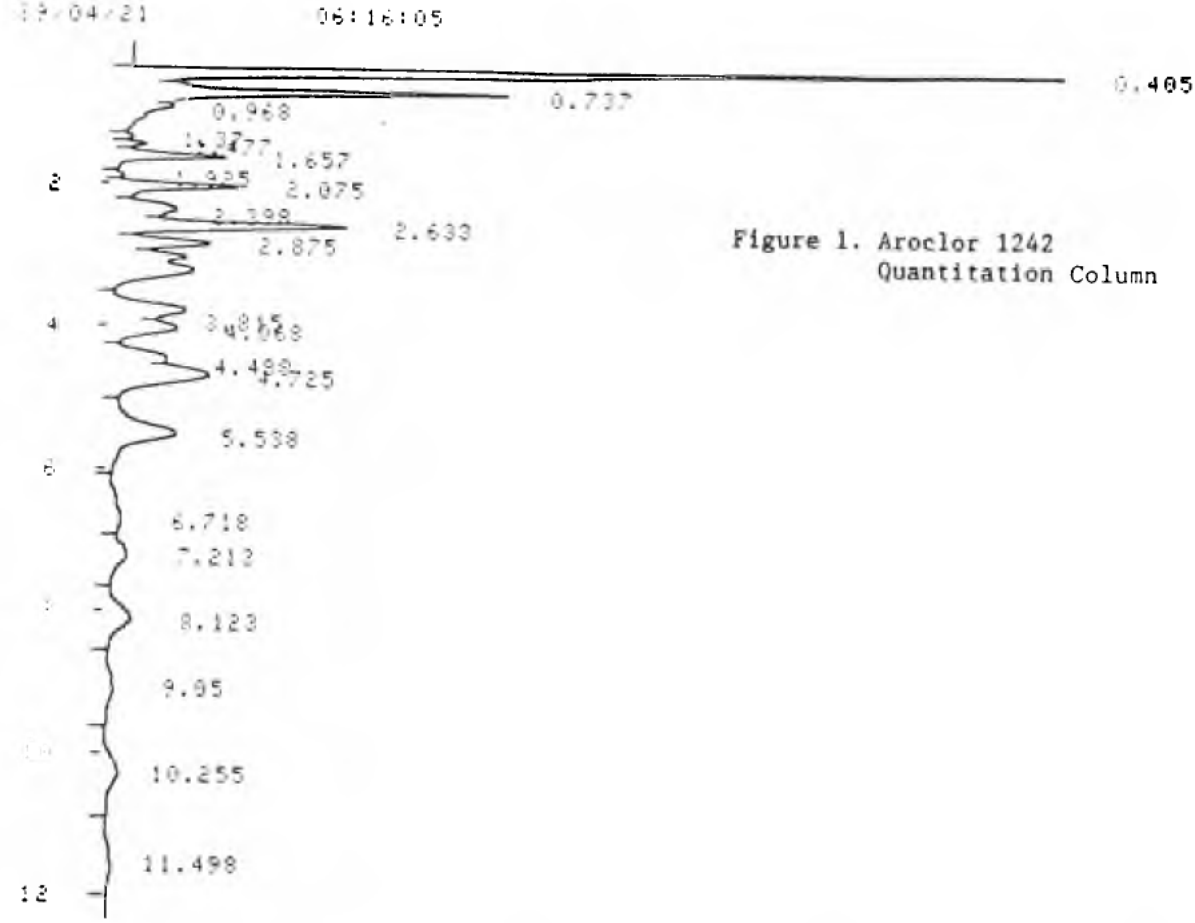



Figure 1. Aroclor 1242
Quantitation Column

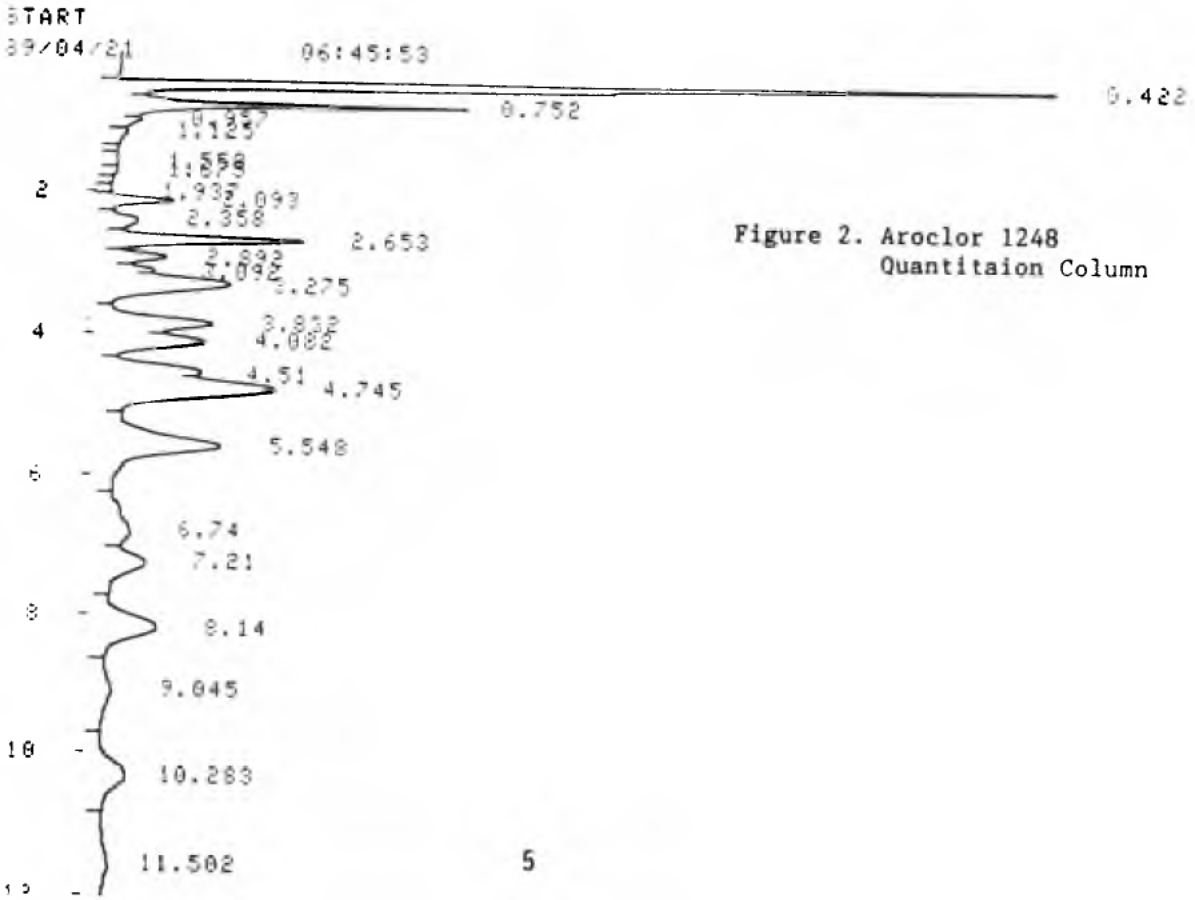



Figure 2. Aroclor 1248
Quantitaion Column

Figure 3. Aroclor 1254
Quantitation Column

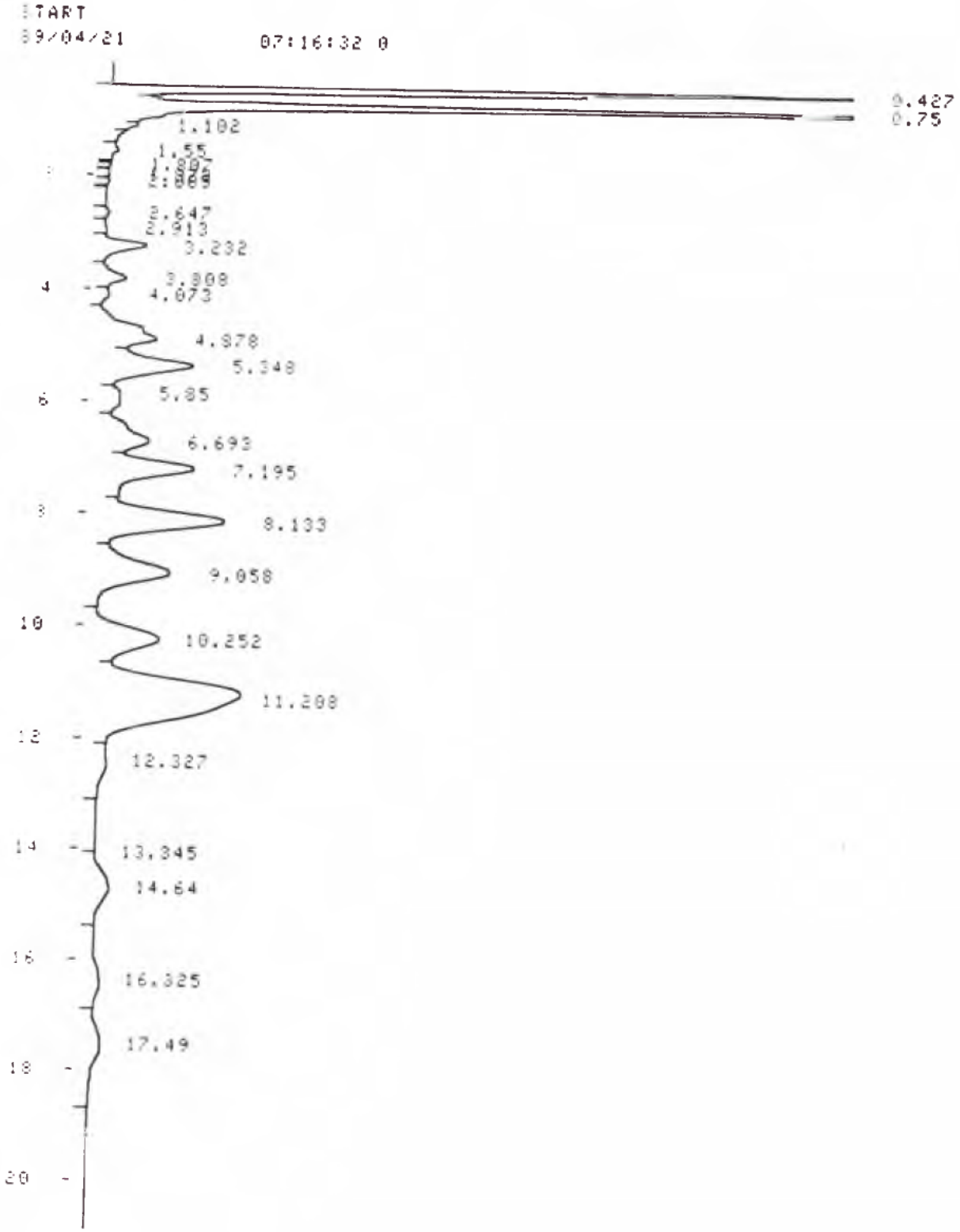
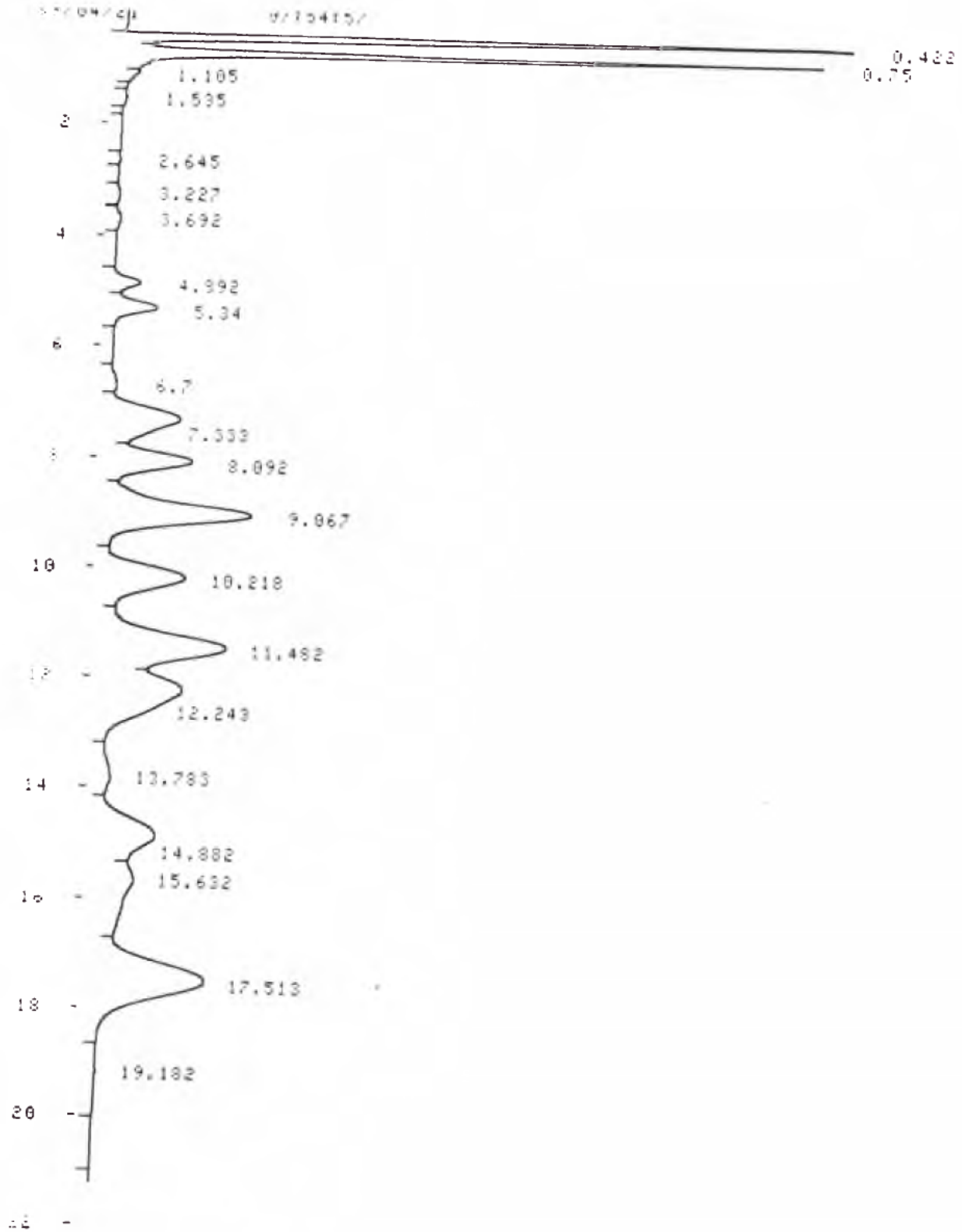


Figure 4. Aroclor 1260
Quantitation Column



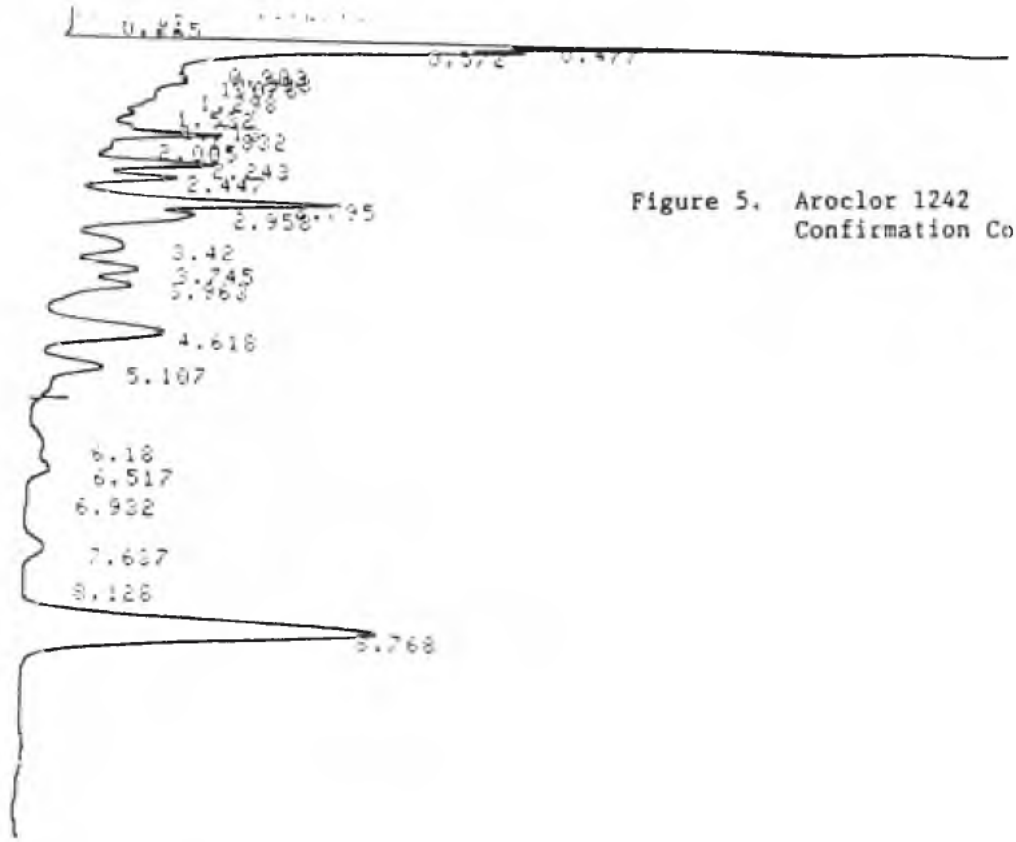



Figure 5. Aroclor 1242
Confirmation Column

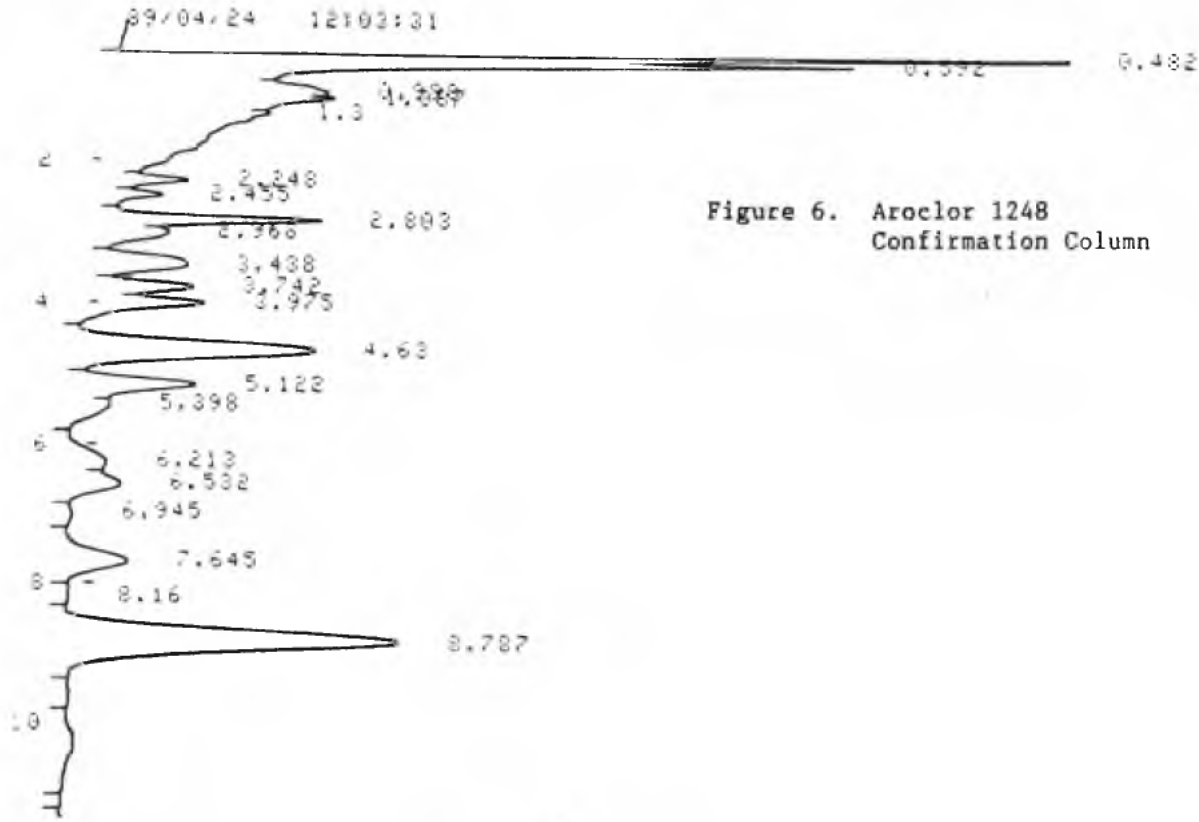



Figure 6. Aroclor 1248
Confirmation Column

Figure 7. Aroclor 1254
Confirmation Column

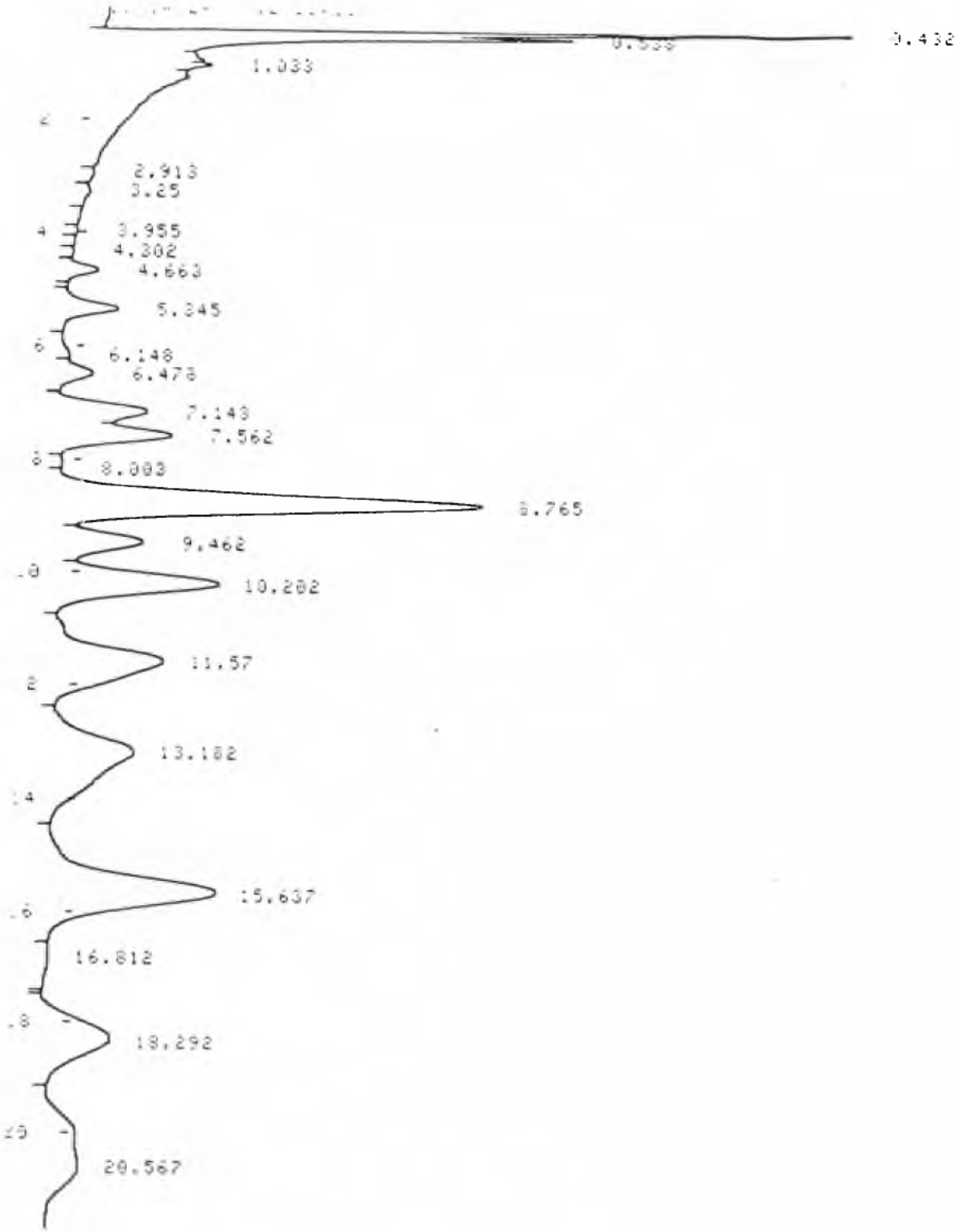
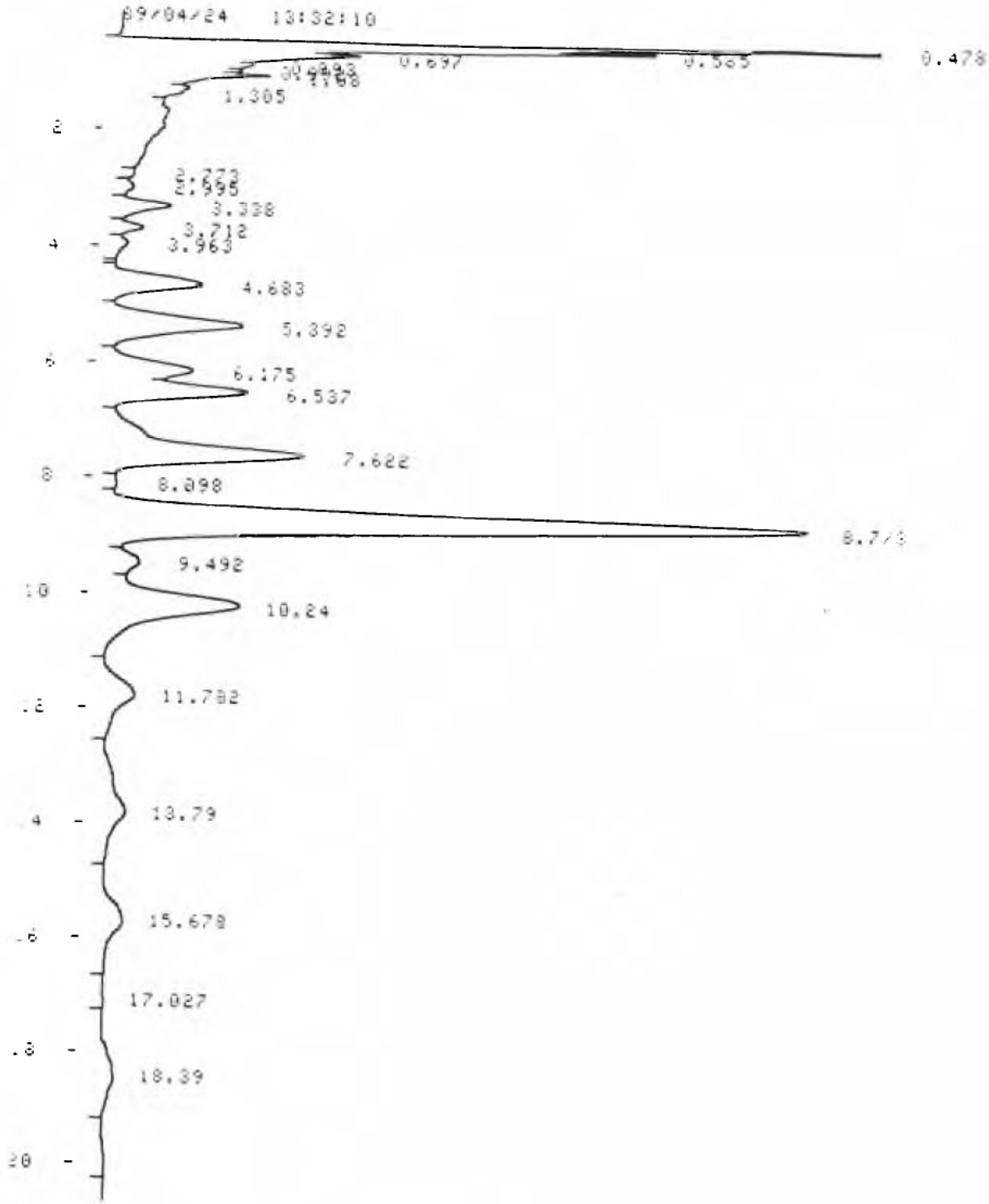


Figure 8. Aroclor 1260
Confirmation Column



## 3.0 FIELD SCREENING DATA

Field screening data are not confirmed by mass spectroscopy and, therefore, do not provide the same level of qualitative specificity as CLP data. While field screening data is not equivalent to or a replacement for CLP data, the results presented in this report are consistent (all samples were extracted and analyzed utilizing the same procedure). Data generated by the E & E Seattle Laboratory for the Magnum Salvage SSI were used to quantitate site contamination. The detection limits were as follows:

| | Soil Samples |
|---|---|
| PCBs | 1 mg/kg |

### 3.1 PCB Screening Results

Aroclor 1242 . . . . . (A1242)
Aroclor 1248 . . . . . (A1248)
Aroclor 1254 . . . . . (A1254)
Aroclor 1260 . . . . . (A1260)

Aroclors were identified utilizing peak pattern matching of sample and standard chromatograms. Soil sample results are reported in wet mass concentrations (mg/kg).

Aroclor 1016, Aroclor 1221, Aroclor 1232, and Aroclor 1262 were not observed in any of the samples; one point calibrations were not performed for these Aroclors. A one-point calibration was performed for Aroclor 1242, to verify that it was not present in any of the samples. One-point calibrations were performed for A1248 and A1260. A three-point initial calibration and daily one-point calibrations were performed for A1254.

All positive results for all samples were analyzed on a second column (the confirmation column); all reported identifications were supported by results from the confirmation column.

PCB data is presented in numerical order by sample number in Table 3.1.

TABLE 3.1

SAMPLE RESULTS
POLYCHLORINATED BIPHENYL FASP ANALYSIS
MAGNUM SALVAGE/HORIZON VEHICLES, ALBANY, OREGON
mg/kg

| | Compound | | | |
|---|---|---|---|---|
| Sample No. | A1242 | A1248 | A1254 | A1260 |
| SG1-A1 | 0.87 UF | 0.87 UF | 0.87 UF | 10 F |
| SG1-A2 | 0.77 UF | 0.77 UF | 0.77 UF | 380 F |
| SG1-A3 | 0.68 UF | 0.68 UF | 0.68 UF | 0.85 F |
| SG1-A4 | 0.91 UF | 0.91 UF | 0.91 UF | Trace |
| SG1-B1 | 4.3 UF | 4.3 UF | 4.3 UF | 7.6 F |
| SG1-B2 | 0.85 UF | 0.85 UF | 0.85 UF | 14 F |
| SG1-B3 | 0.77 UF | 0.77 UF | 0.77 UF | 9.0 F |
| SG1-B3D | 0.78 UF | 0.78 UF | 0.78 UF | 9.9 F |
| SG1-B3R | 0.89 UF | 0.89 UF | 0.89 UF | 8.0 F |
| SG1-B4 | 0.78 UF | 0.78 UF | 0.78 UF | 1.2 F |
| SG1-C1 | 0.75 UF | 0.75 UF | 0.75 UF | 8.0 F |
| SG1-C2 | 0.90 UF | 0.90 UF | 0.90 UF | Trace |
| SG1-C3 | 0.70 UF | 0.70 UF | 0.70 UF | 1.8 F |
| SG1-C4 | 0.83 UF | 0.83 UF | 3.8 F | 0.83 UF |
| SG1-D1 | 0.69 UF | 2.4 F | 0.69 UF | 1.5 F |
| SG1-D2 | 0.70 UF | 0.70 UF | 0.70 UF | 0.70 UF |
| SG1-D3 | 0.77 UF | 0.77 UF | 0.77 UF | 3.5 F |
| SG1-D4 | 0.72 UF | 0.72 UF | 0.77 UF | 1.5 F |
| SG2-A1 | 0.95 UF | 0.95 UF | 0.95 UF | 0.95 UF |
| SG2-A2 | 0.94 UF | 0.94 UF | 0.94 UF | 0.94 UF |
| SG2-A3 | 0.80 UF | 0.80 UF | 0.80 UF | 0.80 UF |
| SG2-A4 | 0.93 UF | 0.93 UF | 0.93 UF | 0.93 UF |
| SG2-A5 | 0.95 UF | 0.95 UF | 0.95 UF | 0.95 UF |
| SG2-B1 | 0.90 UF | 0.90 UF | 0.90 UF | 0.90 UF |
| SG2-B2 | 0.90 UF | 0.90 UF | 0.90 UF | 0.90 UF |
| SG2-B3 | 0.88 UF | 0.88 UF | 0.88 UF | 0.88 UF |
| SG2-B4 | 0.90 UF | 0.90 UF | 0.90 UF | Trace |
| SG2-B5 | 0.90 UF | 0.90 UF | 0.90 UF | 0.90 UF |
| SG2-C1 | 0.88 UF | 0.88 UF | 0.88 UF | 0.88 UF |
| SG2-C2 | 0.88 UF | 0.88 UF | 0.88 UF | 0.88 UF |
| SG2-C3 | 0.89 UF | 0.89 UF | 0.89 UF | 0.89 UF |
| SG2-C4 | 0.82 UF | 0.82 UF | 0.82 UF | 0.82 UF |
| SG2-C5 | 0.95 UF | 0.95 UF | 0.95 UF | 38 F |

TABLE 3.1 (Cont.)

SAMPLE RESULTS
POLYCHLORINATED BIPHENYL FASP ANALYSIS
MAGNUM SALVAGE/HORIZON VEHICLES, ALBANY, OREGON
mg/kg

| | Compound | | | |
|---|---|---|---|---|
| Sample No. | A1242 | A1248 | A1254 | A1260 |
| SG2-D1 | 0.93 UF | 0.93 UF | 0.93 UF | 0.93 UF |
| SG2-D2 | 0.94 UF | 0.94 UF | 0.94 UF | 0.94 UF |
| SG2-D3 | 0.95 UF | 0.95 UF | 0.95 UF | Trace |
| SG2-D4 | 0.86 UF | 0.86 UF | 0.86 UF | Trace |
| SG2-D5 | 0.83 UF | 0.83 UF | 13 F | 0.83 UF |

U - The material was analyzed for but was not detected. The associated numerical value is an instrumental detection limit, adjusted for sample weight, extract volume, and sample dilution.

F - Data has been generated using FASP methodologies. Analytes are tentatively identified and concentrations are quantitative estimates.

Trace - Compound was present at a detectable level, but was below the quantitation limit.

## 3.2 Polychlorinated Biphenyl QA/QC

### 3.2.1 Method Blank Results

TABLE 3.2.1

METHOD BLANK RESULTS, SOIL
POLYCHLORINATED BIPHENYL FASP ANALYSIS
MAGNUM SALVAGE/HORIZON VEHICLES, ALBANY, OREGON
mg/kg

| | Compound | | | |
|---|---|---|---|---|
| Sample No. | A1242 | A1248 | A1254 | A1260 |
| MB-1 | 1.0 UF | 1.0 UF | 1.0 UF | 1.0 UF |
| MB-2 | 1.0 UF | 1.0 UF | 1.0 UF | 1.0 UF |

U - The material was analyzed for but was not detected. The associated numerical value is an instrumental detection limit, adjusted for sample weight, extract volume, and sample dilution.

F - Data has been generated using FASP methodologies. Analytes are tentatively identified and concentrations are quantitative estimates.

**ecology and environment, inc.**

101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537

International Specialists in the Environment

MEMORANDUM

DATE: May 18, 1989

TO: John Osborn, FIT-RPO, USEPA, Region X

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

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

SUBJ: Polychlorinated Biphenyl Screening Results
Magnum Salvage/Horizon Vehicles
Albany, Oregon

REF: TDD F10-8903-002
PAN F0R0222SC

CC: Andrew Hafferty, FIT-AOM, E & E, Seattle
Gerald Muth, DPO, USEPA, Region X
Bruce Woods, ESD, USEPA, Region X

Transmitted herewith are the results for the field screening analyses at the Magnum Salvage/Horizon Vehicles, Albany, Oregon site.

DAI:rls

Enclosures

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3.2.2 Matrix Spike Results

**TABLE 3.2.2**

**MATRIX SPIKE RECOVERY RESULTS, SOIL**
**POLYCHLORINATED BIPHENYL FASP ANALYSIS**
**MAGNUM SALVAGE/HORIZON VEHICLES, ALBANY, OREGON**
mg/kg

| Sample ID | Amount A1254 Spiked | Sample | Sample with Spike | Percent Recovery |
|---|---|---|---|---|
| SG1-D2 | 2.5 | 0.70 UF | 2.97 F | 118 |
| SG2-D2 | 2.5 | 0.94 UF | 3.30 F | 132 |

U - The material was analyzed for but was not detected. The associated numerical value is an instrumental detection limit, adjusted for sample weight, extract volume, and sample dilution.

F - Data has been generated using FASP methodologies. Analytes are tentatively identified and concentrations are quantitative estimates.

### 3.2.3 Duplicate Results

**TABLE 3.2.3**

**DUPLICATE RESULTS**
**POLYCHLORINATED BIPHENYL FASP ANALYSIS**
**MAGNUM SALVAGE/HORIZON VEHICLES, ALBANY, OREGON**
mg/kg

| Sample No. | Sample Result | Duplicate Result | Percent Difference |
|---|---|---|---|
| SG1-D1 | A1242 = 0.69UF | A1242 = 0.87UF | -- |
| | A1248 = 2.4F | A1248 = 2.5F | 4.1 |
| | A1254 = 0.69UF | A1254 = 0.87UF | -- |
| | A1260 = 1.5F | A1260 = 1.6F | 6.7 |
| SG2-D5 | A1242 = 0.83UF | A1242 = 1.0UF | -- |
| | A1248 = 0.83UF | A1248 = 1.0UF | -- |
| | A1254 = 13F | A1254 = 7.9F | 39.2 |
| | A1260 = 0.83U | A1260 = 1.0UF | -- |

U - The material was analyzed for but was not detected. The associated numerical value is an instrumental detection limit, adjusted for sample weight, extract volume, and sample dilution.

F - Data has been generated using FASP methodologies. Analytes are tentatively identified and concentrations are quantitative estimates.

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 OR | 02 SITE NUMBER D981767478 |

**II. SITE NAME AND LOCATION**

| 01 SITE NAME (Legal, common, or descriptive name of site) | 02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER | | | | |
|---|---|---|---|---|---|
| Magnum Salvage/Horizon Vehicles | 1052 Goldfish Farm Road | | | | |
| 03 CITY | 04 STATE | 05 ZIP CODE | 06 COUNTY | 07 COUNTY CODE | 08 CONG DIST |
| Albany | OR | 97321 | Linn | 43 | 05 |

| 09 COORDINATES | | 10 TYPE OF OWNERSHIP (Check one) |
|---|---|---|
| LATITUDE | LONGITUDE | X A. PRIVATE ___B. FEDERAL ___C. STATE ___D.COUNTY ___E. MUNICIPAL |
| 44°38'0.06" | 123°02'0.50" | ___F. OTHER ___G.UNKNOWN |

**III. INSPECTION INFORMATION**

| 01 DATE OF INSPECTION | 02 SITE STATUS | 03 YEARS OF OPERATION |
|---|---|---|
| 4/13/89 (MO/DAY/YR) | X ACTIVE ___INACTIVE | 1947 (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. |
|---|---|---|---|
| Karl Morgenstern | Field Investigator | E & E | 206/624-9537 |
| **09 OTHER INSPECTORS** | **10 TITLE** | **11 ORGANIZATION** | **12 TELEPHONE NO.** |
| Mark Ader | Field Investigator | E & E | 206/624-9537 |
| | | | |
| | | | |
| | | | |
| | | | |

| 13 SITE REPRESENTATIVES INTERVIEWED | 14 TITLE | 15 ADDRESS | 16 TELEPHONE NO. |
|---|---|---|---|
| Casey Sanford | Manager | 1052 Goldfish Farm Rd. | 503/967-1098 |
| Floyd Zumwalt | Owner | 4269 Santiam Highway | 503/967-1098 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| 17 ACCESS GAINED BY (Check one) | 18 TIME OF INSPECTION | 19 WEATHER CONDITIONS |
|---|---|---|
| X PERMISSION<br>___ WARRANT | 0830 | Clear, 65°F |

**IV. INFORMATION AVAILABLE FROM**

| 01 CONTACT | 02 OF (Agency/Organization) | 03 TELEPHONE NO. |
|---|---|---|
| William Glasser | EPA, Region 10 | 206/442-7215 |

| 04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM | 05 AGENCY | 06 ORGANIZATION | 07 TELEPHONE NO. | 08 DATE |
|---|---|---|---|---|
| Mark Ader | EPA-FIT | E & E | 206/624-9537 | 7/21/89 |


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EPA

**POTENTIAL HAZARDOUS WASTE SITE**
**SITE INSPECTION REPORT**
**PART 2 – WASTE INFORMATION**

**I. IDENTIFICATION**

| 01 STATE | 02 SITE NUMBER |
|---|---|
| OR | D981767478 |

**II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS**

01 PHYSICAL STATES
(Check all that apply)

X A. SOLID
___ B. POWDER, FINES
___ 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 Unknown
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS
(Check all that apply)

X A. TOXIC
___ B. CORROSIVE
___ C. RADIOACTIVE
X 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 | | | |
| OLW | OILY WASTE | Unknown | | Transformer oil was dumped on the |
| SOL | SOLVENTS | | | ground during salvaging operations |
| PSD | PESTICIDES | | | |
| OCC | OTHER ORGANIC CHEMICALS | | | |
| IOC | INORGANIC CHEMICALS | | | |
| ACD | ACIDS | | | |
| BAS | BASES | | | |
| MES | HEAVY METALS | Unknown | | Old batteries were stored on site |

**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 |
|---|---|---|---|---|---|
| OLW | PCB | 1336-36-3 | Dumped to ground | 380.0 J | mg/kg |
| MES | Lead | 7439-92-1 | Battery storage area | 1,120.0 | mg/kg |
| MES | Antimony | 7440-36-0 | Battery storage area | 23.0 | mg/kg |
| MES | Arsenic | 7440-38-2 | Battery storage area | 10.7 | mg/kg |
| MES | Cadmium | 7440-43-9 | Battery storage area | 22.7 | mg/kg |
| MES | Copper | 7440-50-8 | Battery storage area | 2,630.0 | mg/kg |
| MES | Silver | N/A | Battery storage area | 5.6 | mg/kg |
| MES | Zinc | N/A | Battery storage area | 4,400.0 | mg/kg |

**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. E & E, 1989a.
2. ODEQ, 1988.

EPA

POTENTIAL HAZARDOUS WASTE SITE

SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

| I. IDENTIFICATION | |
|---|---|
| 01 STATE | 02 SITE NUMBER |

## II. HAZARDOUS CONDITIONS AND INCIDENTS

01 X A. GROUNDWATER CONTAMINATION — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 2,200 — 04 NARRATIVE DESCRIPTION

Groundwater is used for drinking within a 3-mile radius of the site. Analytical results from four nearby domestic wells indicate that groundwater has not been impacted by on-site disposal practices. Domestic wells are drilled to depths ranging from 16 to 110 feet.

01 X B. SURFACE WATER CONTAMINATION — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 100 — 04 NARRATIVE DESCRIPTION

Analytical results from samples collected along the off-site drainage route indicate that surface water has not been impacted by on-site operations.

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 ___ E. DIRECT CONTACT — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

The site is currently covered with 8 to 12 inches of clean gravel. Direct contact potential is minimal.

01 X F. CONTAMINATION OF SOIL — 02 X OBSERVED (DATE: 4/13/89) ___ POTENTIAL ___ ALLEGED

03 AREA POTENTIALLY AFFECTED: 10 (Acres) — 04 NARRATIVE DESCRIPTION

Soil samples collected from on-site locations had elevated levels of PCB (an estimated concentration of up to 380.0 mg/kg) and several inorganic compounds.

01 X G. DRINKING WATER CONTAMINATION — 02 ___ OBSERVED (DATE: _____) X POTENTIAL ___ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: 2,200 — 04 NARRATIVE DESCRIPTION

Groundwater is used for drinking within a 3-mile radius of the site. Drinking water wells range in depth from 16 feet below ground surface (bgs) to 110 feet bgs.

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.

**II. HAZARDOUS CONDITIONS AND INCIDENTS** (CONTINUED)

01 ___ J. DAMAGE TO FLORA — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

None observed, reported, or suspected.

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 ___ M. UNSTABLE CONTAINMENT OF WASTES — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

(Spills/runoff/standing liquids/leaking drums)

03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

None observed, reported, or suspected.

01 ___ N. DAMAGE TO OFFSITE PROPERTY — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

None observed, reported, or suspected.

01 ___ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ___ OBSERVED (DATE: _____) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

None observed, reported, or suspected.

01 X P. ILLEGAL/UNAUTHORIZED DUMPING — 02 X OBSERVED (DATE: 4/13/89) ___ POTENTIAL ___ ALLEGED

04 NARRATIVE DESCRIPTION

PCBs were detected in the on-site soil samples indicating either a spill or dumping of transformer oil.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None observed, reported, or suspected.

**III. TOTAL POPULATION POTENTIALLY AFFECTED:** 2,300

**IV. COMMENTS**

**V. SOURCES OF INFORMATION** (Cite specific references. e.g., state files, sample analysis, reports)

1. E & E, 1988a.
2. ODEQ, 1988.



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**POTENTIAL HAZARDOUS WASTE SITE**
**SITE INSPECTION REPORT**
**PART 4 – PERMIT AND DESCRIPTIVE INFORMATION**

**I. IDENTIFICATION**

| 01 STATE OR | 02 SITE NUMBER |
|---|---|
| | D981767478 |

**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 | | | | |
| ___G. STATE (Specify) | | | | |
| ___H. LOCAL (Specify) | | | | |
| ___I. OTHER (Specify) | | | | |
| X J. NONE | | | | |

**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 Transformer oil spilled to ground – (Specify) | quantity unknown | |

04 TREATMENT (Check all that apply)
___A. INCINERATION
___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
1

06 AREA OF SITE
~ 14 (Acres)

07 COMMENTS
Transformer oil was spilled to the ground during salvaging of copper wire from electrical transformers. Used batteries were also stored on site.

**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.

**V. ACCESSIBILITY**

01 WASTE EASILY ACCESSIBLE: ___YES X NO
02 COMMENTS

The site was recently covered with approximately 8 inches of clean gravel.

**VI. SOURCES OF INFORMATION** (Cite specific references, e.g. state files, sample analysis, reports)


1. E & E, 1989a.
2. ODEQ, 1988.





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**POTENTIAL HAZARDOUS WASTE SITE**
**SITE INSPECTION REPORT**
**PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA**

**I. IDENTIFICATION**

| 01 STATE | 02 SITE NUMBER |
|---|---|
| OR | D981767478 |

## II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

| | SURFACE | WELL |
|---|---|---|
| COMMUNITY | A. X | B. ___ |
| NON-COMMUNITY | C. ___ | D. X |

02 STATUS

| ENDANGERED | AFFECTED | MONITORED |
|---|---|---|
| A. ___ | B. ___ | C. ___ |
| D. ___ | E. ___ | F. ___ |

03 DISTANCE TO SITE

A. 8 (mi)
B. < 0.10 (mi)

## III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

X A. ONLY SOURCE FOR DRINKING
___ B. DRINKING (Other sources available)
___ C. COMMERCIAL, INDUSTRIAL IRRIGATION (Limited other sources available)
___ D. NOT USED, UNUSABLE

COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)

02 POPULATION SERVED BY GROUNDWATER 2,200

03 DISTANCE TO NEAREST DRINKING WATER WELL < 0.10 (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 |
|---|---|---|---|---|
| ~7 - 21 (ft) | West | ~20 (ft) | Unknown (gpd) | ___ YES X NO |

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)

| 10 RECHARGE AREA | | 11 DISCHARGE AREA | |
|---|---|---|---|
| ___ YES | COMMENTS | ___ YES | COMMENTS |
| ___ NO | Unknown | ___ NO | Unknown |

## 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 |
|---|---|---|
| Willamette River | ___ | 2 (mi) |
| | ___ | (mi) |
| | ___ | (mi) |

## 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. ~ 400 | B. ~ 3,000 | C. > 10,000 |
| NO. OF PERSONS | NO. OF PERSONS | NO. OF PERSONS |

02 DISTANCE TO NEAREST POPULATION <1/4 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE ~ 1,000

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 a semirural area of light commercial, industrial, and residential development.



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**POTENTIAL HAZARDOUS WASTE SITE**
**SITE INSPECTION REPORT**
**PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA**

**I. IDENTIFICATION**

| 01 STATE | 02 SITE NUMBER |
|---|---|
| OR | D981767478 |

**II. ENVIRONMENTAL INFORMATION**

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

___A. $10^{-6}$ - $10^{-8}$ cm/sec  X B. $10^{-4}$ - $10^{-6}$ cm/sec  ___C. $10^{-4}$ - $10^{-3}$ cm/sec  ___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)  ___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 |
|---|---|---|
| Unknown (ft) | Unknown (ft) | Unknown |

| 06 NET PRECIPITATION | 07 ONE-YEAR 24-HOUR RAINFALL | 08 SLOPE SITE SLOPE | DIRECTION OF SITE SLOPE | TERRAIN AVERAGE SLOPE |
|---|---|---|---|---|
| 24 (in) | 1.75 (in) | ~3 % | Southwest | ~3 % |

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. ___ (mi)  OTHER: B. 1/4 (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 | AGRICULTURAL LANDS AG LAND |
|---|---|---|---|
| A. < 0.10 (mi) | B. < 0.10 (mi) | C. ___ (mi) | D. ___ (mi) |

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The Magnum Salvage/Horizon Vehicle site is located on the broad floodplain of the Willamette River. The site slope and surrounding terrain is less than 3 percent to the southwest. The Willamette River is located approximately 2 miles northwest of the site.

**VII. SOURCES OF INFORMATION** (Cite specific references, e.g., state files, sample analysis, reports)


1. E & E, 1989a.
2. ODWR, 1989b.
3. USGS, 1970.





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**POTENTIAL HAZARDOUS WASTE SITE**
**SITE INSPECTION REPORT**
**PART 6 - SAMPLE AND FIELD INFORMATION**

**I. IDENTIFICATION**

| 01 STATE OR | 02 SITE NUMBER |
|---|---|
| | D981767478 |

**II. SAMPLES TAKEN**

| SAMPLE TYPE | 01 NUMBER OF SAMPLES TAKEN | 02 SAMPLES SENT TO | 03 ESTIMATED DATE RESULTS AVAILABLE |
|---|---|---|---|
| GROUNDWATER | 4 | CLP | |
| SURFACE WATER | | | |
| WASTE | | | |
| AIR | | | |
| RUNOFF | | | |
| SPILL | | | |
| SOIL | 42 | Thirty-eight soil samples were analyzed by Region 10 FASP. Four groundwater, three sediment, and seven soil samples were sent to a CLP laboratory. | |
| VEGETATION | | | |
| OTHER | | | |

**III. FIELD MEASUREMENTS TAKEN**

| 01 TYPE | 02 COMMENTS (b) (6) Well | (b) (6) Well | (b) (6) Well | (b) (6) Well |
|---|---|---|---|---|
| pH | 6.56 | 7.55 | 8.04 | 7.31 |
| Conductivity µhos | 133 | 166 | 111 | 154 |
| Temperature °C | 12.1 | 14.2 | 13.7 | 13.5 |
| | | | | |

**IV. PHOTOGRAPHS AND MAPS**

01 TYPE ___ GROUND ___ AERIAL

02 IN CUSTODY OF _____
(Name of organization or individual)

03 MAPS
X YES
___ NO

04 LOCATION OF MAPS
EPA 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, 1989a.



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**POTENTIAL HAZARDOUS WASTE SITE**
**SITE INSPECTION REPORT**
**PART 7 - OWNER INFORMATION**

| I. IDENTIFICATION | |
|---|---|
| 01 STATE OR | 02 SITE NUMBER D981767478 |

| II. CURRENT OWNER(S) | | | | PARENT COMPANY (If applicable) | | | |
|---|---|---|---|---|---|---|---|
| 01 NAME Floyd Zumwalt | | 02 D+B NUMBER | | 08 NAME | | 09 D+B NUMBER | |
| 03 STREET ADDRESS (P.O. BOX, RFD #, ETC.) 4269 Santiam Highway | | | 04 SIC CODE | 10 STREET ADDRESS (P.O. BOX, RFD #, ETC.) | | | 11 SIC CODE |
| 05 CITY Albany | 06 STATE OR | 07 ZIP CODE 97321 | | 12 CITY | 13 STATE | 14 ZIP CODE | |
| 01 NAME | | 02 D+B NUMBER | | 08 NAME | | 09 D+B NUMBER | |
| 03 STREET ADDRESS (P.O. BOX, RFD #, ETC.) | | | 04 SIC CODE | 10 STREET ADDRESS (P.O. BOX, RFD #, ETC.) | | | 11 SIC CODE |
| 05 CITY | 06 STATE | 07 ZIP CODE | | 12 CITY | 13 STATE | 14 ZIP CODE | |
| 01 NAME | | 02 D+B NUMBER | | 08 NAME | | 09 D+B NUMBER | |
| 03 STREET ADDRESS (P.O. BOX, RFD #, ETC.) | | | 04 SIC CODE | 10 STREET ADDRESS (P.O. BOX, RFD #, ETC.) | | | 11 SIC CODE |
| 05 CITY | 06 STATE | 07 ZIP CODE | | 12 CITY | 13 STATE | 14 ZIP CODE | |

| III. PREVIOUS OWNER(S) (List most recent first) | | | | IV. REALTY OWNER(S) (If applicable; list most recent first) | | | |
|---|---|---|---|---|---|---|---|
| 01 NAME Roberta Hess | | 02 D+B NUMBER | | 01 NAME | | 02 D+B NUMBER | |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) Unknown | | | 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 Howard Price and Mr. Anderson | | 02 D+B NUMBER | | 01 NAME | | 02 D+B NUMBER | |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) Unknown | | | 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 Burt Moss | | 02 D+B NUMBER | | 01 NAME | | 02 D+B NUMBER | |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) Unknown | | | 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)

1. ODEQ, 1988.



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**POTENTIAL HAZARDOUS WASTE SITE**
**SITE INSPECTION REPORT**
**PART 8 – OPERATOR INFORMATION**

| I. IDENTIFICATION | |
|---|---|
| 01 STATE OR | 02 SITE NUMBER D981767478 |

| II. CURRENT OPERATOR (Provide if different from owner) | | | OPERATOR'S PARENT COMPANY (If applicable) | | |
|---|---|---|---|---|---|
| 01 NAME<br>Same as Owner | | 02 D+B NUMBER | 10 NAME | | 11 D+B NUMBER |
| 03 STREET ADDRESS (P.O. BOX, RFD #, ETC.) | | 04 SIC CODE | 12 STREET ADDRESS (P.O. BOX, RFD #, ETC.) | | 13 SIC CODE |
| 05 CITY | 06 STATE | 07 ZIP CODE | 14 CITY | 15 STATE | 16 ZIP CODE |
| 08 YEARS OF OPERATION | 09 NAME OF OWNER | | | | |

| III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner) | | | PREVIOUS OPERATORS' PARENT COMPANIES (If applicable) | | |
|---|---|---|---|---|---|
| 01 NAME<br>Same | | 02 D+B NUMBER | 10 NAME | | 11 D+B NUMBER |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 04 SIC CODE | 12 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 13 SIC CODE |
| 05 CITY | 06 STATE | 07 ZIP CODE | 14 CITY | 15 STATE | 16 ZIP CODE |
| 08 YEARS OF OPERATION | 09 NAME OF OWNER DURING THIS PERIOD | | | | |
| 01 NAME | | 02 D+B NUMBER | 10 NAME | | 11 D+B NUMBER |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 04 SIC CODE | 12 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 13 SIC CODE |
| 05 CITY | 06 STATE | 07 ZIP CODE | 14 CITY | 15 STATE | 16 ZIP CODE |
| 08 YEARS OF OPERATION | 09 NAME OF OWNER DURING THIS PERIOD | | | | |
| 01 NAME | | 02 D+B NUMBER | 10 NAME | | 11 D+B NUMBER |
| 03 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 04 SIC CODE | 12 STREET ADDRESS (P.O. Box, RFD #, etc.) | | 13 SIC CODE |
| 05 CITY | 06 STATE | 07 ZIP CODE | 14 CITY | 15 STATE | 16 ZIP CODE |
| 08 YEARS OF OPERATION | 09 NAME OF OWNER DURING THIS PERIOD | | | | |

**IV. SOURCES OF INFORMATION** (Cite specific references, e.g., state files, sample analysis, reports)

1. ODEQ, 1988.



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**POTENTIAL HAZARDOUS WASTE SITE**
**SITE INSPECTION REPORT**
**PART 9 - GENERATOR/TRANSPORTER INFORMATION**

| I. IDENTIFICATION | |
|---|---|
| 01 STATE OR | 02 SITE NUMBER D981767478 |

**II. ON-SITE GENERATOR**

| 01 NAME | 02 D+B NUMBER | |
|---|---|---|
| Same as Owner | | |
| 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)

1. ODEQ, 1988.



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## II. PAST RESPONSE ACTIVITIES

01 ___A. WATER SUPPLY CLOSED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___D. SPILLED MATERIAL REMOVED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___E. CONTAMINATED SOIL REMOVED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___F. WASTE REPACKAGED — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___H. ON SITE BURIAL — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___L. ENCAPSULATION — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___M. EMERGENCY WASTE TREATMENT — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___N. CUTOFF WALLS — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___P. CUTOFF TRENCHES/SUMP — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None



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**II. PAST RESPONSE ACTIVITIES** (Continued)

01 ___R. BARRIER WALLS CONSTRUCTED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___S. CAPPING/COVERING 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___T. BULK TANKAGE REPAIRED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___U. GROUT CURTAIN CONSTRUCTED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___V. BOTTOM SEALED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___W. GAS CONTROL 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___X. FIRE CONTROL 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___Y. LEACHATE TREATMENT 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___Z. AREA EVACUATED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___1. ACCESS TO SITE RESTRICTED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___2. POPULATION RELOCATED 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION
None

01 ___3. OTHER REMEDIAL ACTIVITIES 02 DATE _____ 03 AGENCY _____
04 DESCRIPTION

None

**V. SOURCES OF INFORMATION** (Cite specific references, e.g., state files, sample analysis, reports)

1. E & E, 1989a.
2. ODEQ, 1988.



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| EPA | POTENTIAL HAZARDOUS WASTE SITE<br>SITE INSPECTION REPORT<br>PART 11 - ENFORCEMENT INFORMATION | I. IDENTIFICATION<br>01 STATE OR<br>02 SITE NUMBER D981767467 |
|---|---|---|

**II. ENFORCEMENT INFORMATION**

01 PAST REGULATORY/ENFORCEMENT ACTION ___YES ___NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

None

**III. SOURCES OF INFORMATION** (Cite specific references, e.g., state files, sample analysis, reports)


1. E & E, 1989a.
2. ODEQ, 1988.





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Appendix F
WELL SAMPLING DATA SHEETS

ECOLOGY AND ENVIRONMENT,
WELL SAMPLING DATA SHEET

TDD#: F10- 8901-024
Date: 8/11/89
Recorder: Mark Ader

Site Name: Magnum Salvage
Well #: (b) (6)
Location: Albany, Oregon

## GENERAL

TYPE OF WELL: Monitoring ☐ Domestic ☒ Commercial/Industrial ☐ Irrigation ☐
Other (specify) ☐ _____

Casing Material: unknown
Constructed Depth: unknown
Casing Diameter: unknown
Screened Interval: unknown
Elevation: unknown
Measured from: Top of well casing ☐
Top of Surface casing ☐ Ground Surface ☐ Other (specify) ☐ _____

Security Cap: Locked ☐ Unlocked ☐ None Present ☐

Other Seal or Pump in Place: Yes ☒ No ☐

Physical Condition of Well (i.e., damaged, etc.): _____

## FIELD MEASUREMENTS

DEPTH TO STATIC WATER: unknown
Measured from: Top of Well Casing ☐
Other (specify) ☐ _____

Measuring Device: Electric tape ☐ Wetted Tape ☐ Other (specify) ☐ _____

Depth to Bottom: _____
Obstructions: _____

PURGING INFORMATION:

Pump (Type, Model): unknown
Purge Rate of Pumping Method: ~10 gpm
Bailer (Type, Size): _____
Checked by (bucket, timed flow, etc.): _____
Approximate total volume purged: _____

| | Time | Volume Purged | Temp (°C) | pH | Conduct. (umhos) | Other | Other | Other |
|---|---|---|---|---|---|---|---|---|
| | | | 14.7 | 7.43 | 143 | | | |
| | | | 14.6 | 7.34 | 160 | | | |
| | | | 13.7 | 7.33 | 158 | | | |
| | | | 13.9 | 7.27 | 155 | | | |
| Final | | | 13.5 | 7.31 | 154 | | | |

## SAMPLING INFORMATION

ANALYSES TO BE PERFORMED:

Metals ☒
Base/Neutrals ☒
Acids ☒
Pesticides/PCBs ☒
Volatiles ☐
Total Cyanide ☐

Herbicides ☐
Dioxins ☐
Other (specify) ☐ _____

Cyanide Prescreen: Yes ☐ No ☐
Sulfide: Yes ☐ No ☐
Oxidizing Agents: Yes ☐ No ☐

SAMPLE COLLECTION DEVICE:

SS. Bailer ☐ Teflon Bailer ☐
Pump (specify tubing type) ☐ _____
Faucet ☒

Duplicates Collected: Yes ☐ No ☒
Splits Provided: Yes ☐ No ☒

Sample #s: M. Ader
K. Meyerstein

NOTES:

ECOLOGY AND ENVIRONMENT
WELL SAMPLING DATA SHEET

TDD#: F10- 8901-024
Date: 8/11/89
Recorder: Mark Ader

Site Name: [illegible] Salvage
Well #: (b) (6) [redacted]
Location: Albany, Oregon

## GENERAL

TYPE OF WELL: Monitoring ☐ Domestic ☒ Commercial/Industrial ☐ Irrigation ☐
Other (specify) ☐ _____

Casing Material: unknown
Constructed Depth: unknown
Casing Diameter: unknown
Screened Interval: unknown
Elevation: unknown
Measured from: Top of well casing ☐
Top of Surface casing ☐ Ground Surface ☐ Other (specify) ☐ _____

Security Cap: Locked ☐ Unlocked ☐ None Present ☐

Other Seal or Pump in Place: Yes ☒ No ☐

Physical Condition of Well (i.e., damaged, etc.): _____

## FIELD MEASUREMENTS

DEPTH TO STATIC WATER: unknown
Measured from: Top of Well Casing ☐
Other (specify) ☐ _____

Measuring Device: Electric tape ☐ Wetted Tape ☐ Other (specify) ☐ _____

Depth to Bottom: _____
Obstructions: _____

PURGING INFORMATION:

Pump (Type, Model): unknown
Purge Rate of Pumping Method: ~10 gpm
Bailer (Type, Size): _____
Checked by (bucket, timed flow, etc.): _____
Approximate total volume purged: _____

| | Time | Volume Purged | Temp (°C) | pH | Conduct. (umhos) | Other | Other | Other |
|---|---|---|---|---|---|---|---|---|
| | | | 14.0 | 8.07 | 117 | | | |
| | | | 13.9 | 8.05 | 129 | | | |
| | | | 13.8 | 8.05 | 113 | | | |
| | | | 13.7 | 8.04 | 113 | | | |
| Final | | | 13.7 | 8.04 | 111 | | | |

## SAMPLING INFORMATION

ANALYSES TO BE PERFORMED:

Metals ☒
Base/Neutrals ☒
Acids ☒
Pesticides/PCBs ☒
Volatiles ☐
Total Cyanide ☐

Herbicides ☐
Dioxins ☐
Other (specify) ☐ _____

Cyanide Prescreen: Yes ☐ No ☐
Sulfide: Yes ☐ No ☐
Oxidizing Agents: Yes ☐ No ☐

SAMPLE COLLECTION DEVICE:

SS. Bailer ☐ Teflon Bailer ☐
Pump (specify tubing type) ☐ _____
Faucet ☒

Duplicates Collected: Yes ☐ No ☒
Splits Provided: Yes ☐ No ☒

Sample #s: M. Ader
K. Morgenstern

## NOTES:

ECOLOGY AND ENVIRONMENT
WELL SAMPLING DATA SHEET

TDD#: F10-8901-024
Date: 8/11/89
Recorder: Mark Ader

Site Name: Albany Landfill
Well #: (b) (6)
Location: Albany, Oregon

## GENERAL

TYPE OF WELL: Monitoring ☐ Domestic ☒ Commercial/Industrial ☐ Irrigation ☐
Other (specify) ☐ _____

Casing Material: unknown
Constructed Depth: ~20'
Casing Diameter: unknown
Screened Interval: unknown
Elevation: unknown
Measured from: Top of well casing ☐
Top of Surface casing ☐ Ground Surface ☐ Other (specify) ☐ _____

Security Cap: Locked ☐ Unlocked ☐ None Present ☐

Other Seal or Pump in Place: Yes ☒ No ☐

Physical Condition of Well (i.e., damaged, etc.): _____

## FIELD MEASUREMENTS

DEPTH TO STATIC WATER: N/A
Measured from: Top of Well Casing ☐
Other (specify) ☐ _____

Measuring Device: Electric tape ☐ Wetted Tape ☐ Other (specify) ☐ _____

Depth to Bottom: _____
Obstructions: _____

PURGING INFORMATION:

Pump (Type, Model): unknown
Purge Rate of Pumping Method: ~10 gpm
Bailer (Type, Size): _____
Checked by (bucket, timed flow, etc.): _____
Approximate total volume purged: 300 gallon

| | Time | Volume Purged | Temp (°C) | pH | Conduct. (umhos) | Other | Other | Other |
|---|---|---|---|---|---|---|---|---|
| | | | 13.9 | 6.67 | 167 | | | |
| | | | 11.8 | 6.59 | 140 | | | |
| | | | 11.5 | 6.57 | 142 | | | |
| | | | 11.4 | 6.58 | 133 | | | |
| Final | | | 11.3 | 6.56 | 134 | | | |

## SAMPLING INFORMATION

ANALYSES TO BE PERFORMED:

Metals ☒
Base/Neutrals ☒
Acids ☒
Pesticides/PCBs ☒
Volatiles ☐
Total Cyanide ☐

Herbicides ☐
Dioxins ☐
Other (specify) ☐ _____

Cyanide Prescreen: Yes ☐ No ☐
Sulfide: Yes ☐ No ☐
Oxidizing Agents: Yes ☐ No ☐

SAMPLE COLLECTION DEVICE:

SS. Bailer ☐ Teflon Bailer ☐
Pump (specify tubing type) ☐ _____
Faucet ☒

Duplicates Collected: Yes ☒ No ☐
Splits Provided: Yes ☐ No ☒

Sample #s: M. Ader
K. Morganstern

NOTES:

ECOLOGY AND ENVIRONMENT
WELL SAMPLING DATA SHEET

TDD#: F10-9901-024
Date: 8/11/89
Recorder: M. Ader

Site Name: Magnum Salvage
Well #: (b) (6)
Location: Albany, Oregon

## GENERAL

TYPE OF WELL: Monitoring ☐ Domestic ☒ Commercial/Industrial ☐ Irrigation ☐
Other (specify) ☐ _____

Casing Material: unknown
Constructed Depth: unknown
Casing Diameter: unknown
Screened Interval: unknown
Elevation: unknown
Measured from: Top of well casing ☐
Top of Surface casing ☐ Ground Surface ☐ Other (specify) ☐ _____

Security Cap: Locked ☐ Unlocked ☐ None Present ☐

Other Seal or Pump in Place: Yes ☒ No ☐

Physical Condition of Well (i.e., damaged, etc.): _____

## FIELD MEASUREMENTS

DEPTH TO STATIC WATER: unknown
Measured from: Top of Well Casing ☐
Other (specify) ☐ _____

Measuring Device: Electric tape ☐ Wetted Tape ☐ Other (specify) ☐ _____

Depth to Bottom: _____
Obstructions: _____

PURGING INFORMATION:

Pump (Type, Model): unknown
Purge Rate of Pumping Method: ~ 10 gal/min
Bailer (Type, Size): _____
Checked by (bucket, timed flow, etc.): _____
Approximate total volume purged: _____

| | Time | Volume Purged | Temp (°C) | pH | Conduct. (umhos) | Other | Other | Other |
|---|---|---|---|---|---|---|---|---|
| | | | 15.8 | 7.62 | 175 | | | |
| | | | 16.1 | 7.52 | 169 | | | |
| | | | 14.6 | 7.55 | 165 | | | |
| | | | 14.5 | 7.54 | 164 | | | |
| Final | | | 14.2 | 7.55 | 166 | | | |

## SAMPLING INFORMATION

ANALYSES TO BE PERFORMED:

Metals ☒
Base/Neutrals ☒
Acids ☒
Pesticides/PCBs ☒
Volatiles ☐
Total Cyanide ☐

Herbicides ☐
Dioxins ☐
Other (specify) ☐ _____

Cyanide Prescreen: Yes ☐ No ☐
Sulfide: Yes ☐ No ☐
Oxidizing Agents: Yes ☐ No ☐

SAMPLE COLLECTION DEVICE:

SS. Bailer ☐ Teflon Bailer ☐
Pump (specify tubing type) ☐ _____
Faucet ☒

Duplicates Collected: Yes ☐ No ☒
Splits Provided: Yes ☐ No ☒

Sample #s: M. Ader
E. Morganstern

NOTES: