
**Wenatchee Landfill
Targeted Brownfields Assessment Report
Wenatchee, Washington
TDD: 98-11-0007**

Contract: 68-W6-0008
June 2000

Region 10
START

Superfund Technical Assessment and Response Team

Submitted To: Joanne LaBaw, Task Monitor
United States Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101

**WENATCHEE LANDFILL
TARGETED BROWNFIELDS ASSESSMENT REPORT
WENATCHEE, WASHINGTON**

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1. INTRODUCTION	1-1
2. SITE BACKGROUND	2-1
2.1 SITE LOCATION AND DESCRIPTION	2-1
2.2 WENATCHEE REGIONAL CONDITIONS	2-2
2.3 SITE OWNERSHIP HISTORY	2-2
2.4 SITE OPERATIONS AND WASTE CHARACTERISTICS	2-2
2.4.1 Previous Investigations	2-3
2.4.2 START Site Visit	2-3
2.4.3 Potential Future Property Uses	2-3
2.4.4 Areas of Potential Contamination	2-3
3. BROWNFIELDS INVESTIGATION AND RESULTS	3-1
3.1 FIELD ACTIVITIES	3-1
3.2 REGULATORY STANDARDS AND REPORTING	3-1
3.3 ANALYTICAL PROTOCOL, SAMPLING METHODS, AND RATIONALE	3-3
3.3.1 Subsurface Soil Sampling	3-3
3.3.2 Groundwater Sampling	3-4
3.4 SAMPLING ACTIVITIES AND ANALYTICAL RESULTS	3-4
3.4.1 Landfill Area	3-4
3.4.1.1 Subsurface Soil Samples	3-5
3.4.1.2 Groundwater Samples	3-6
3.4.2 Non-Landfill Area	3-7
3.4.2.1 Subsurface Soil Samples	3-7
3.4.2.2 Groundwater Samples	3-8
4. CLEANUP OPTIONS AND COSTS	4-1
4.1 LANDFILL EXCAVATION AND BACKFILL	4-2
5. CONCLUSIONS AND RECOMMENDATIONS	5-1
6. REFERENCES	6-1

WENATCHEE LANDFILL CLEANUP AND RESTORATION INVESTIGATION REPORT

TABLE OF CONTENTS

Page

Section

1	INTRODUCTION	1-1
2	SITE BACKGROUND	2-1
2.1	SITE LOCATION AND DESCRIPTION	2-1
2.2	WENATCHEE REGIONAL CONDITIONS	2-2
2.3	SITE OWNERSHIP HISTORY	2-3
2.4	SITING AND WASTE CHARACTERISTICS	2-4
2.4.1	Previous Investigations	2-4.1
2.4.2	Site History	2-4.2
2.4.3	Port of Wenatchee Project History	2-4.3
2.4.4	Areas of Potential Contamination	2-4.4
3	INVESTIGATION AND RESULTS	3-1
3.1	FIELD ACTIVITIES	3-1
3.2	REGULATORY STANDARDS AND CRITERIA	3-2
3.3	ANALYTICAL PROCEDURES, METHODS AND QUALITY ASSURANCE	3-3
3.3.1	Subsurface Soil Sampling	3-3.1
3.3.2	Groundwater Sampling	3-3.2
3.4	SAMPLING ACTIVITIES AND ANALYTICAL RESULTS	3-4
3.4.1	Field Data	3-4.1
3.4.1.1	Subsurface Soil Samples	3-4.1.1
3.4.1.2	Groundwater Samples	3-4.1.2
3.4.2	Post-Remediation Areas	3-4.2
3.4.2.1	Groundwater Soil Samples	3-4.2.1
3.4.2.2	Groundwater Samples	3-4.2.2
4	CONCLUSIONS AND COMMENTS	4-1
4.1	LANDFILL EXCAVATION AND BACKFILL	4-1
4.2	CONCLUSIONS AND RECOMMENDATIONS	4-2
5	REFERENCES	5-1

Note: This page is intentionally left blank.

LIST OF APPENDICES

- | | |
|---|--|
| A | PHOTOGRAPHIC DOCUMENTATION |
| B | SAMPLE PLAN ALTERATION FORM |
| C | QUALITY ASSURANCE/QUALITY CONTROL INFORMATION AND DATA
VALIDATION MEMORANDA |
| D | GLOBAL POSITIONING SYSTEM SAMPLE COORDINATES |
| E | CLEANUP COST ESTIMATE SUMMARY |

SECRET
 100-442601

FORMER A 70 TEL

A	PHOTOGRAPHIC DOCUMENTATION
B	SAMPLE PLAN ALLOCATION FORM
C	QUALITY ASSURANCE/QUALITY CONTROL INFORMATION AND DATA VALIDATION MEMORANDA
D	GLOBAL POSITIONING SYSTEM SAMPLE COORDINATES
E	CLEANUP COST ESTIMATE SUMMARY

Note: This page is intentionally left blank.

LIST OF TABLES

<u>Table</u>	<u>Page</u>
3-1 Sample Collection Information	3-9
3-2 Landfill Subsurface Soil Sample Analytical Results Summary	3-14
3-3 Landfill Subsurface Soil Sample Screening Level Summary	3-30
3-4 Landfill Groundwater Sample Analytical Results Summary	3-34
3-5 Landfill Groundwater Sample Screening Level Summary	3-36
3-6 Public Works Department Property Subsurface Soil Sample Analytical Results Summary ..	3-38
3-7 Public Works Department Property Subsurface Soil Sample Screening Level Summary	3-41
3-8 Public Works Department Property Groundwater Sample Analytical Results Summary	3-44
3-9 Public Works Department Property Groundwater Sample Screening Level Summary	3-46

Approved for release
by the Air Force

LIST OF TABLES

Table	
3-1	Sample Collection Information
3-2	Landfill Subsurface Soil Sample Analytical Results Summary
3-3	Landfill Subsurface Soil Sample Screening Level Summary
3-4	Landfill Groundwater Sample Analytical Results Summary
3-5	Landfill Groundwater Sample Screening Level Summary
3-6	Public Works Department Property Subsurface Soil Sample Analytical Results Summary
3-7	Public Works Department Property Subsurface Soil Sample Screening Level Summary
3-8	Public Works Department Property Groundwater Sample Analytical Results Summary
3-9	Public Works Department Property Groundwater Sample Screening Level Summary

Note: This page is intentionally left blank.

LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
2-1	Site Location Map	2-5
2-2	Site Map	2-6
3-1	Sample Location Map	3-47
3-2	Landfill Subsurface Soil Sample Screening Level Exceedance Map	3-48
3-3	Landfill Groundwater Sample Screening Level Exceedance Map	3-49
3-4	PWD Property Subsurface Soil Sample Screening Level Exceedance Map	3-50
3-5	PWD Property Groundwater Sample Screening Level Exceedance Map	3-51

LIST OF TABLES

Page	Table
1-1	Site Location Map
1-2	Site Map
1-3	Sample Location Map
1-4	Landfill Subsurface Soil Sample Location Map
1-5	Landfill Subsurface Soil Sample Location Map
1-6	Landfill Subsurface Soil Sample Location Map
1-7	Landfill Subsurface Soil Sample Location Map
1-8	Landfill Subsurface Soil Sample Location Map
1-9	Landfill Subsurface Soil Sample Location Map
1-10	Landfill Subsurface Soil Sample Location Map
1-11	Landfill Subsurface Soil Sample Location Map

Note: This page is intentionally left blank.

LIST OF ACRONYMS

<u>Acronym</u>	<u>Definition</u>
bgs	below ground surface
CFR	Code of Federal Regulations
CLARC	Cleanup Levels and Risk Calculations
CL Pesticides	Chlorinated Pesticides
CLP	Contract Laboratory Program
CLPAS	Contract Laboratory Program Analytical Service
DDD	4,4-dichlorodiphenyldichloroethane
DDE	4,4-dichlorodiphenyldichloroethylene
DDT	4,4-dichlorodiphenyltrichloroethane
DQOs	data quality objectives
DUP	duplicate
E & E	Ecology & Environment, Inc.
EPA	United States Environmental Protection Agency
F	Fahrenheit
Geoprobe™	Geoprobe™ direct-push sampler
IDW	investigation-derived waste
J	The associated numerical value is an estimated quantity
MCL	maximum contaminant level
µg/L	micrograms per Liter
µg/kg	micrograms per kilogram
mg/kg	milligrams per kilogram
MTCA	Model Toxics Control Act
MS	matrix spike
MSD	matrix spike duplicate
PA	Preliminary Assessment
PCDDs	polychlorinated dibenzo-dioxins
PCDFs	polychlorinated dibenzo-furans
PCBs	polychlorinated biphenyls
PRGs	Preliminary Remediation Goals
PWD	Public Works Department

LIST OF ACRONYMS (CONTINUED)

<u>Acronym</u>	<u>Definition</u>
QA	quality assurance
QC	quality control
%R	percent recovery
R	the sample results are rejected
RPD	Relative Percent Difference
SQAP	Sampling and Quality Assurance Plan
START	Superfund Technical Assessment and Response Team
SVOC	semivolatile organic compounds
TAL	Target Analyte List
TBA	Targeted Brownfields Assessment
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalent Quantity
the Historical Landfill	Chelan County-Worthen Street Municipal Landfill
the site	the Wenatchee Landfill site
the City	the City of Wenatchee
TM	task monitor
U	the associated numerical value is the sample quantitation limit
UJ	the detection limit is estimated because quality control criteria were not met
USGS	United States Geological Survey
VOC	volatile organic compounds
WDOE	Washington Department of Ecology
WRCC	Western Regional Climate Center

**WENATCHEE LANDFILL
TARGETED BROWNFIELDS ASSESSMENT REPORT
WENATCHEE, WASHINGTON**

1. INTRODUCTION

Pursuant to United States Environmental Protection Agency (EPA) Superfund Technical Assessment and Response Team (START) Contract No. 68-W6-0008 and Technical Direction Document No. 98-11-0007, Ecology and Environment, Inc., (E & E) performed a Targeted Brownfields Assessment (TBA) at the Wenatchee Landfill site located in Wenatchee, Washington. The EPA's Brownfields Economic Redevelopment Initiative is designed to empower states, cities, tribes, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields sites.

The City of Wenatchee Public Works Department (PWD) owns the property and operates on site. The City is considering the sale of the property for use as business office space and therefore requested a TBA.

This TBA consisted of limited on-site sampling at potential contaminant source areas for site characterization purposes. This report outlines the technical and analytical approaches that were employed by the START during TBA fieldwork and characterizes actual contaminants detected.

WASHINGTON, WASHINGTON
TARGED BROWNHILL ASSESSMENT REPORT
WASHINGTON, WASHINGTON

1. INTRODUCTION

Pursuant to United States Environmental Protection Agency (EPA) Superfund Technical Assessment and Response Team (START) Contract No. 68-WA-0008 and Technical Document No. 68-1-0007, Ecology and Environment, Inc. (E & E) performed a Targeted Brownhill Assessment (TBA) at the Washington Landfill site located in Washington, Washington. The EPA's Brownhill Assessment Redesign Initiative is designed to empower states, cities, tribes, communities, and other stakeholders in economic development to work together in a timely manner to prevent, assess, study, clean up, and ultimately reuse brownfields sites.

The City of Washington Public Works Department (PWD) owns the property and operates on the property. The City is considering the sale of the property for use as business office space and is therefore requesting a TBA.

Note: This page is intentionally left blank.

This TBA consisted of limited on-site (visual) assessment activities for the characterization purposes. This report contains the technical and analytical information that were employed by the START during TBA Redesign and characterizes actual contaminants detected.

2. SITE BACKGROUND

The information and descriptions provided in this section are based on a review of previous investigations and a START site visit conducted on March 22, 1999.

2.1 SITE LOCATION AND DESCRIPTION

The site is located at 25 North Worthen Street in Wenatchee, Washington (Figure 2-1), at latitude 47° 25' 35" North and longitude 120° 18' 25" West in Section 3, Township 22N, Range 20E, Willamette Meridian (USGS 1966).

The former Chelan County Worthen Street Municipal Landfill (the Historical Landfill) covered approximately 6 acres and is located adjacent to the Columbia River. The unlined Historical Landfill is located on the City of Wenatchee PWD and adjacent wastewater treatment plant property (WDOE 1985). The Historical Landfill occupies approximately 1.5 acres of the approximately 3.34 acres of mostly paved PWD property that also includes office, storage, and equipment maintenance buildings (Figure 2-2). The PWD constructed the office building in 1958. The storage and equipment maintenance buildings were constructed in the early 1970s after the closure and subsequent filling of the Historical Landfill. The Historical Landfill is located in the northeast and northwest portion of the PWD property and is covered by pavement and the storage building (Figure 2-2). Groundwater flow from the site is east toward the Columbia River. Seasonal groundwater fluctuations are expected to range from 10 to 30 feet bgs (WDOE 1985). The drainage area for the site likely consists of only the 3.34 acres of PWD property because of barriers such as sidewalks and curbs surrounding the property. The PWD property is generally flat with minimal slope except for the outline of the Historical Landfill, which is defined by settling of the pavement (approximately 4 to 6 inches below grade) in the PWD parking lot (Figure 2-2). The entire site is paved, and surface water runoff travels via sheet flow along the pavement to the six surface water collection points (Figure 2-2). All storm drains lead to an outfall at Riverfront Park and into the Columbia River. Any spills from current operations would likely flow into these collection points and therefore would not impact local groundwater.

The PWD property is fenced with two gated entrances along North Worthen Street. The land uses within 1 mile of the site are mainly industrial, commercial, recreational, and residential. Industrial

and commercial uses include shopping in the downtown retail district of Wenatchee, agricultural product processing, and operations at the wastewater treatment plant. Recreational activities include the use of Riverfront Park for walking and jogging and the Columbia River, which is used for boating and fishing. A total of 5,142 residences with 11,194 people are within 1 mile of the site (EPA 1999). The nearest residences are located approximately 0.25 mile west of the site. Under current conditions, there is little potential for direct contact with on-site soils and inhalation of windblown dust because of the pavement covering the Historical Landfill.

2.2 WENATCHEE REGIONAL CONDITIONS

Wenatchee is located in central Washington in the Cascade Mountains at an elevation of 620 to 900 feet (USGS 1966). The average temperatures in January range from 21.2° to 33.5° Fahrenheit (°F) and in July range from 60.1° to 87.1°F. Annual precipitation is 8.58 inches, with 33.0 inches of snowfall (WRCC 1999). The flood hazard due to the proximity of the site to the Columbia River is moderate as the site is located partially within a 100-year flood plain (WDOE 1985).

The primary municipal water supplies (approximately 99.99 percent) within the city are provided by the City of Wenatchee Water Department and the Chelan County Public Utilities Department water system (Curry 1999). These public systems draw water from an aquifer located on the east side of the Columbia River approximately 6 miles north of the site and east of the Rocky Reach Dam. Public water is treated and piped throughout the city (Curry 1999; Erickson 1999; Walker 1999). Groundwater at the site is not used for drinking water. All known wells within 3 miles of the site are located across the Columbia River, which serves as a hydrological barrier (WDOE 1985). The nearest known drinking water well is located 0.5 miles east of the site.

2.3 SITE OWNERSHIP HISTORY

The Historical Landfill began operations in 1952 as a municipal landfill owned and operated by the City (WDOE 1985). The Historical Landfill ceased operations in the early 1970s. The City has owned the property since 1952; however, ownership before that date is unknown.

2.4 SITE OPERATIONS AND WASTE CHARACTERISTICS

The Historical Landfill operated from 1952 until the early 1970s (EPA 1981). Site operations included disposal and occasional open burning of residential solid wastes. There are no records of hazardous material disposal (WDOE 1985), trash separation areas, or specific burn pit locations within

the landfill. Waste monitoring records were not maintained during operation of the Historical Landfill, therefore suspected potential contaminants of concern include volatile organic compounds (VOCs); semivolatile organic compounds (SVOCs); chlorinated pesticides (CL Pesticides)/polychlorinated biphenyls (PCBs); Target Analyte List (TAL) metals, and, based on the reported incineration of on-site waste, polychlorinated dibenzo-dioxins (PCDDs) and polychlorinated dibenzo-furans (PCDFs).

2.4.1 Previous Investigations

No records of hazardous wastes were found during a non-sampling Preliminary Assessment (PA) conducted at the Historical Landfill in 1985 by the WDOE. No leachate was observed migrating from the Historical Landfill during the PA (WDOE 1985), and groundwater was estimated to range between 10 and 30 feet below ground surface (bgs).

2.4.2 START Site Visit

On March 22, 1999, the EPA task monitor (TM) and START project manager conducted a site visit and interviewed City personnel, including the director of the Department of Community Development and the Street/Fleet and Facilities manager for the PWD, to collect information regarding historical, current, and potential future use of the property. The EPA and START personnel toured the property with the City personnel and observed the approximate outline of the Historical Landfill based on the settling in the pavement as described by City employees (Woodke 1999). Most of the historical site usage information was obtained from the PA Report (WDOE 1985).

2.4.3 Potential Future Property Uses

City personnel have indicated that the PWD property may be sold to outside parties interested in redeveloping the property, potentially as a business park or hotel location (Woodke 1999), however specific information on potential development(s) at the PWD property have not been provided to the START.

2.4.4 Areas of Potential Contamination

Sampling was conducted at those areas considered to be potential contamination sources and at on-site areas that may have been contaminated through migration of hazardous substances from sources on site. Based on a review of background information and discussions with site representatives, the following areas were planned for evaluation under the Wenatchee Landfill TBA:

the landfill. Waste monitoring results were not maintained during operation of the Historical Landfill.

- **Historical Landfill Soil/Waste:** An unknown quantity of undocumented domestic solid wastes was disposed of at the Historical Landfill. Burning of wastes also was documented. Potential contaminants of concern include VOCs, SVOCs, CL Pesticides/PCBs, TAL metals, and PCDDs/PCDFs;

- **Historical Landfill Groundwater:** An unknown quantity of undocumented domestic solid wastes was disposed of at the Historical Landfill. Contaminants associated with the solid waste are potentially migrating to groundwater. Potential contaminants of concern include VOCs, SVOCs, CL Pesticides/PCBs, TAL metals, and PCDDs/PCDFs;

- **PWD Property (Non-Landfill) Soil:** Soil on the PWD property outside of the Historical Landfill area may be impacted by leachate migrating from the Historical Landfill. Potential contaminants of concern include VOCs, SVOCs, CL Pesticides/PCBs, TAL metals, and PCDDs/PCDFs;

- **PWD Property (Non-Landfill) Groundwater:** Groundwater from the Historical Landfill area is potentially impacted from the Historical Landfill. Potential contaminants of concern include VOCs, SVOCs, CL Pesticides/PCBs, TAL metals, and PCDDs/PCDFs; and

- **Riverfront Park Seeps:** Because of the proximity of the site to the Columbia River, contaminants from the Historical Landfill can potentially leach downgradient to Riverfront Park and into the Columbia River via seeps; however, seep samples were not collected because seeps were not present near the PWD property during the TBA.

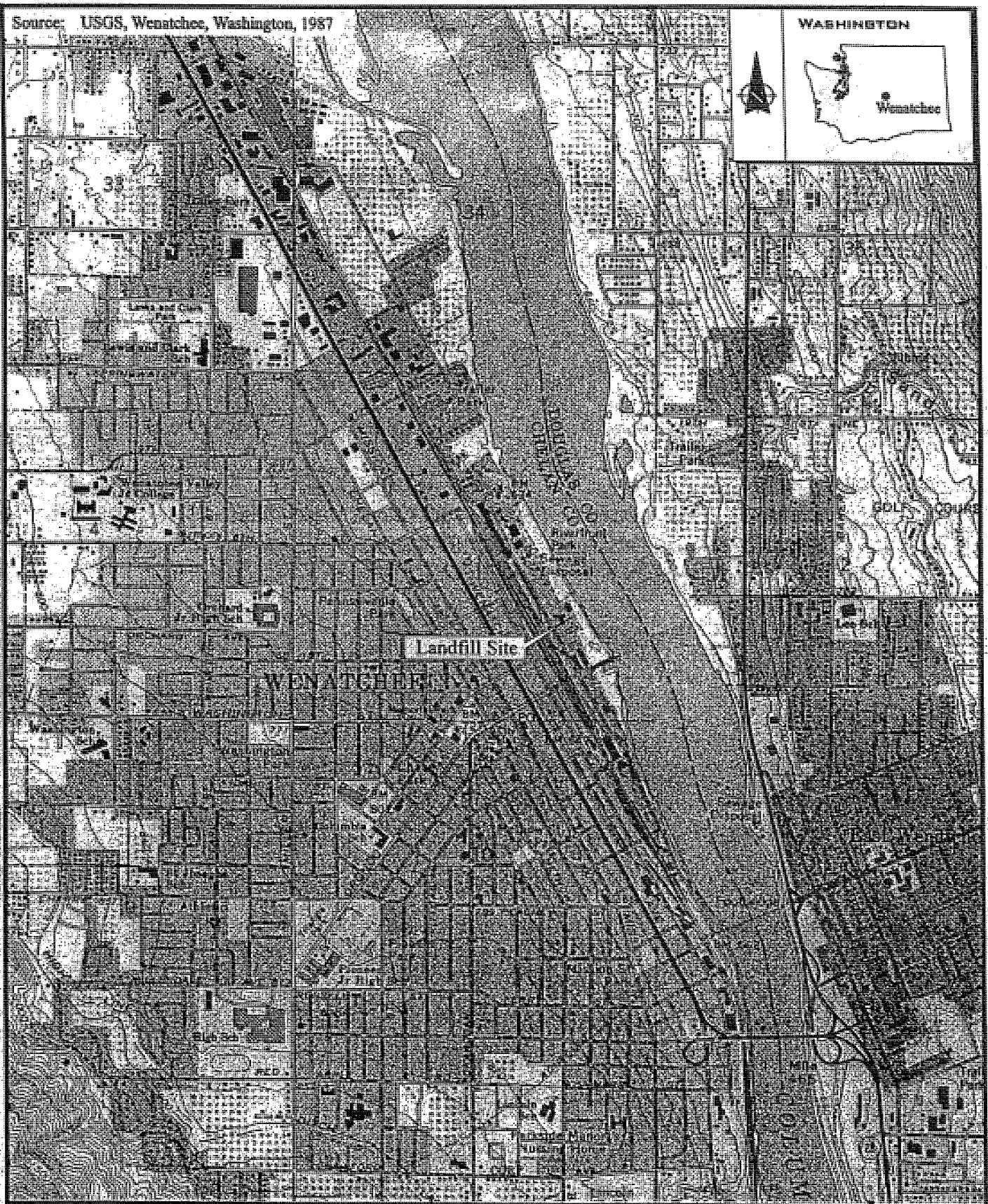
property with the City personnel and observed the approximate outline of the Historical Landfill based on the setting in the pavement as described by City employees (Wooden 1997). Most of the historical site usage information was obtained from the PA Report (WDOE 1997).

City personnel have indicated that the PWD property may be sold to outside parties interested in developing the property, primarily as a business park or hotel location (Wooden 1997). However, specific information on potential development of the PWD property have not been provided to the

1-4-4 Areas of Potential Contamination
Sampling was conducted at these areas and was designed to be focused on areas of potential contamination and areas of concern that may have been contaminated through migration of leachate from the landfill. Based on a review of the historical information and the results of the sampling, the following areas were identified as potential areas of concern for the Historical Landfill:

Source: USGS, Wenatchee, Washington, 1987

WASHINGTON



ecology and environment, inc.
International Specialists in the Environment
Seattle, Washington

**WENATCHEE LANDFILL
TARGETED
BROWNFIELDS ASSESSMENT
Wenatchee, Washington**

0 2.5 5
Approximate Scale in Miles

**Figure 2-1
SITE LOCATION MAP**

Drawn: AES	DATE: 12/9/99	JOB NO. DF0201SIT0	Dwg.No. DF0201 2-1a
---------------	------------------	-----------------------	------------------------

Figure 2-2

Site Map

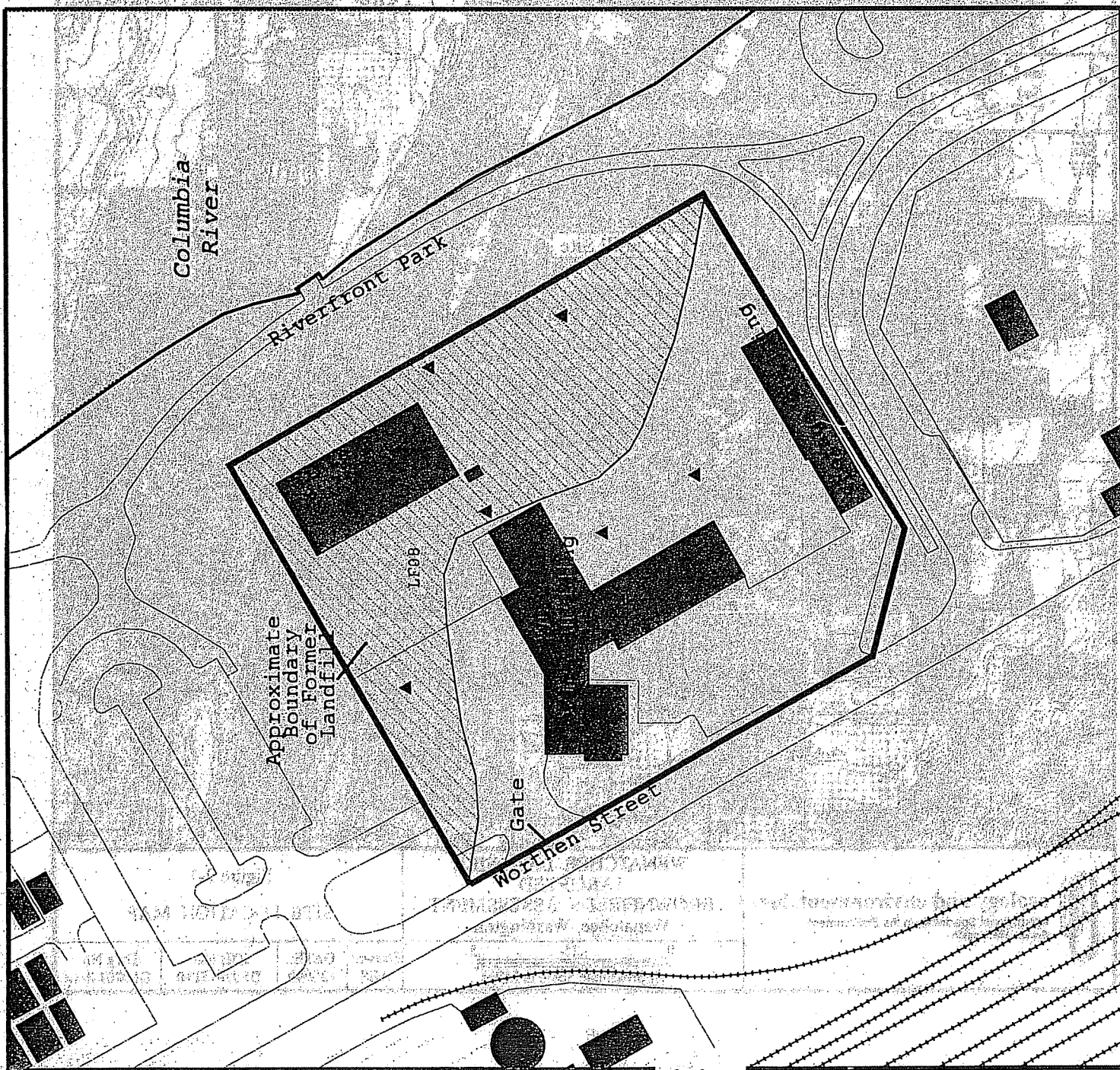
Wenatchee, Washington

Legend

- PWD Property
- Sample Location
- Building
- Approximate Boundary of Former Landfill
- Railroad
- Storm Drain



ecology and environment, inc.
Integrative Specialists in the Environment
Seattle, Washington



3. BROWNFIELDS INVESTIGATION AND RESULTS

3.1 FIELD ACTIVITIES

TBA field activities were conducted at the site during the weeks of June 28 and July 5, 1999. Photographic documentation of site activities is presented in Appendix A. All sampling was conducted in accordance with the EPA-approved Sampling and Quality Assurance Plan (SQAP) dated June 23, 1999 (E & E 1999). Deviations from the SQAP included not collecting samples at Riverfront Park seeps because seeps were not present at the time of sample collection. The Sample Plan Alteration Form summarizes these deviations (Appendix B). Quality assurance (QA)/quality control (QC) information, laboratory analytical data, and QA review memoranda are provided in Appendix C. Global Positioning System coordinates were obtained for locations of all samples collected during the TBA and are provided in Appendix D.

3.2 REGULATORY STANDARDS AND REPORTING

The goals of TBAs are to empower states, cities, tribes, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields. In order to interpret analytical results, conservative screening levels and background concentrations were used for comparison.

Both Washington Department of Ecology (WDOE) Model Toxics Control Act (MTCA) cleanup levels (WDOE 1996) and EPA Region 9 Preliminary Remediation Goals (PRGs) were used as conservative, screening levels to assess whether contaminants present pose a potential threat to human health under a variety of exposure conditions. Residential concentrations were used preferentially for evaluation purposes for maximum beneficial uses of the property. The industrial concentrations also were provided for informational purposes and were used as an alternative cleanup goal for soils.

Washington MTCA levels are presented according to three categories: Methods A, B, and C. Method A levels are generally the most conservative, may or may not be risk-based, and are intended for use at simple sites with a limited number of contaminants. Method A values are available for groundwater (assuming human consumption), residential soil, and industrial soil. Generally, if a Method A value is available for a given contaminant, it should be used as the screening level for that

contaminant. However, some Method A values may be inappropriate at a given site because they are based on pathways that are not important (e.g., migration to groundwater). When the Method A value is determined to be inappropriate, then the corresponding Method B or Method C value should be used for residential or industrial scenarios, respectively.

Method B levels are based on residential land use; consequently, groundwater cleanup levels are based on household use of groundwater as a drinking water source while soil levels assume high frequency of contact in a residential setting. Method B cleanup levels account for exposures to children. Method B cleanup levels correspond to a one in 1,000,000 excess lifetime cancer risk for carcinogens or a hazard quotient of 1 for noncarcinogens. (A hazard quotient is a ratio between the level to which someone may be exposed to a contaminant in the environment and the level deemed "safe" by regulatory agencies. This "safe" exposure level is usually referred to as a reference dose or reference concentration.)

Method C levels are based on commercial or industrial land use; consequently, soil and groundwater cleanup levels are based on adult contact only. The risk levels for Method C are an excess lifetime cancer risk of one in 100,000 for carcinogens and a hazard quotient of 1 for noncarcinogens.

While MTCA has provided tables of Method B and C values in their Cleanup Levels and Risk Calculations (CLARC) tables, the equations used to derive these levels are provided in Chapter 173-340 Washington Administrative Code so that levels for existing chemicals in the table or additional chemicals can be calculated as new toxicity data becomes available. Because of the limited scope of the TBA, levels available in the 1996 version of the CLARC table were used where available.

When MTCA levels were not available, the most recent EPA Region 9 PRG table (EPA 1999b) was used as the source of screening levels. EPA Region 9 PRGs are risk-based levels that are useful as screening values at sites to determine whether levels of contaminants pose a potential threat to human health. PRGs are based on an excess lifetime cancer risk of one in 1,000,000 for carcinogens and a hazard quotient of 1 for noncarcinogens. Soil PRGs are available for residential exposure scenarios (including children) and industrial exposure scenarios (adults only). Tap water PRGs can be used for comparison to groundwater, assuming the groundwater is used for domestic purposes in a residential exposure setting (i.e., drinking, washing clothing and dishes, bathing, etc.).

At the EPA TM's direction, site-specific background samples were not collected, however metals results were compared to Washington State natural background levels as listed in *Natural Background Soil Metals Concentrations in Washington State*, Toxics Cleanup Program, WDOE, October, 1994 (WDOE 1994).

For this section's analytical summary tables, analytical concentrations were evaluated using the following guidelines:

- Analytes that were not detected in any sample within a given medium were deleted from the table;
- All detected analytes were bolded;
- Analytes detected at concentrations above one or more screening levels or Washington State natural background levels were considered elevated and are underlined; and
- In the absence of applicable screening levels, analytical concentrations were included in the tables but could not be quantitatively evaluated.

Based on EPA, Region 10, policy, evaluation of aluminum, calcium, iron, magnesium, potassium, and sodium (i.e., common earth crust metals) generally is employed only in water mass tracing, which is beyond the scope of this report. Additionally, calcium, iron, magnesium, potassium, and sodium are not associated with toxicity to humans under normal circumstances (EPA 1996c). For these reasons, these elements are not discussed in the report.

3.3 ANALYTICAL PROTOCOL, SAMPLING METHODS, AND RATIONALE

This section describes the subsurface soil and groundwater sample collection conducted for the TBA. Surface soil samples were not collected due to the presence of pavement throughout the site. Following collection, all samples were stored in iced coolers and maintained under chain of custody. Forty-six samples, excluding QA samples (rinsate blanks and trip blanks), were collected during the TBA. Sample types and the methods of collection are described below. Sample locations were determined based on background information and were designed to investigate the areas of concern identified in Section 2.4.4. A list of all samples collected for laboratory analysis during the TBA is presented in Table 3-1. Alphanumeric identification numbers applied to each sample location (e.g., LF01) are the sample location identifiers used in the report. Approximate sample locations are shown in Figure 3-1.

3.3.1 Subsurface Soil Sampling

Subsurface soil samples, mixed with varying amounts of landfill waste and designated as soil samples in this report, were analyzed for combinations of the following parameters as specified in the approved SQAP: VOCs (Contract Laboratory Program Analytical Service [CLPAS] OLM03.2), SVOCs

(CLPAS OLM03.2), CL Pesticides/PCBs (CLPAS OLM03.2), TAL metals (CLPAS ILM04.0), and PCDDs/PCDFs (EPA SW-846 Method 8290). Subsurface soil samples were collected using a Geoprobe™ direct-push sampler (Geoprobe™) and split-spoon stainless steel samplers with acetate liners. The samples were collected at the designated depths (except as noted in Table 3-1) of 0 to 4 feet bgs, 8 to 12 feet bgs, 18 to 22 feet bgs, and 28 to 32 feet bgs; were homogenized thoroughly using dedicated stainless steel spoons and dedicated stainless steel bowls (except for aliquots for VOC analyses, which were placed directly into the sample containers); and were placed into pre-labeled sample containers using the same dedicated stainless steel spoons. The Geoprobe™ sampler was decontaminated with soapy water and rinsed with a steam cleaner between sample locations as outlined in the SQAP. After sample collection, the boreholes were backfilled with bentonite grout.

3.3.2 Groundwater Sampling

The groundwater samples were analyzed for the following parameters as specified in the approved SQAP: VOCs (CLPAS OLM03.2), SVOCs (CLPAS OLM03.2), CL Pesticides/PCBs (CLPAS OLM03.2), TAL metals (CLPAS ILM04.0), and PCDDs/PCDFs (EPA SW-846 Method 8290). Groundwater samples were collected using the Geoprobe™, dedicated Teflon-lined tubing, and an inertia pump with a check valve attached. The groundwater seep samples that were planned to be collected from Riverfront Park were not collected because of the absence of observable seeps. The check valves went through a six-step decontamination process between sample locations as outlined in the SQAP. Groundwater was pumped directly into the pre-labeled sample containers and then preserved as appropriate. After sample collection, the boreholes were backfilled with bentonite grout. The abandonment of each borehole that reached groundwater was observed by a registered State of Washington Professional Engineer.

3.4 SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

Samples collected during the TBA were analyzed for the parameters listed in Table 3-1. Sample collection depths are also provided in Table 3-1.

3.4.1 Landfill Area

Subsurface soil samples were collected from ten soil borings (locations LF01 through LF03 and LF07 through LF13) in the Historical Landfill area on the PWD property (Figure 3-1). Two to four soil samples were collected from each borehole location depending on sample recovery. Subsurface soil

sample results are provided in Table 3-2 and a summary of subsurface soil results compared to screening levels is provided in Table 3-3. Groundwater samples were collected from three soil borings (LF02, LF03, and LF11). Groundwater sample results are provided in Table 3-4 and a summary of groundwater results compared to screening levels is provided in Table 3-5.

3.4.1.1 Subsurface Soil Samples

A total of 33 subsurface soil samples were collected from the Historical Landfill area. Six VOCs, 17 SVOCs, 15 CL Pesticides, two PCBs, 17 TAL metals, and 15 PCDD/PCDF congeners were detected in the subsurface soil samples. Screening levels were exceeded in 26 of 33 samples. The following analytes exceeded one or more screening level concentrations:

<u>Analyte</u>	<u>Sample Locations with Exceedances</u>	<u>Exceedance Concentration Range</u>
Chrysene	One	540 µg/kg
Arsenic	Four	20.7 to 43.9 mg/kg
Beryllium	Twenty six	0.24 to 0.68 mg/kg
Lead	Two	385 to 437 mg/kg

Each of the subsurface soil sample screening level exceedances were greater than the applicable residential standards but were less than the applicable industrial standards. Due to the single exceedance of chrysene at a depth of 8 to 12 feet bgs, chrysene does not appear to warrant additional investigation. The inorganic exceedances occurred throughout the property. The beryllium exceedances are all below the Washington State natural background average of 2 mg/kg as listed in *Natural Background Soil Metals Concentrations in Washington State*, Toxics Cleanup Program, WDOE, October, 1994 (WDOE 1994). Because the site is likely to be developed for commercial purposes in the future and because contamination is present in the subsurface samples, additional evaluation is not warranted at this time. However, if future development results in transport of subsurface contamination to the surface and if the land use changes, additional evaluation should be performed to ensure that contamination does not pose a health risk under new land uses.

3.4.1.2 Groundwater Samples

Three groundwater samples were collected from the Historical Landfill area. Eight VOCs, seven SVOCs, two CL Pesticides, one PCB, 16 TAL metals, and four PCDD/PCDF congeners were detected in the groundwater samples. Screening levels were exceeded at all three locations. The following analytes exceeded one or more screening level concentrations:

Analyte	Sample Locations with Exceedances	Exceedance Concentration Range
1,2-Dichloroethane	One	21 µg/L
Methylene Chloride	One	420 µg/L
4,4'-DDD	One	1.3 µg/L
4,4'-DDE	One	0.61 µg/L
Aroclor 1260	One	0.41 µg/L
Arsenic	Three	7.1 to 45.6 µg/L
Barium	Two	1,330 to 1,930 µg/L
Beryllium	Two	0.82 to 2 µg/L
Cadmium	One	5.2 µg/L
Chromium	Three	74.9 to 541 µg/L
Lead	Three	16.5 to 487 µg/L
Manganese	Two	2,430 to 2,470 µg/L
Nickel	One	363 µg/L
PCDD/PCDF TEQ	One	1.6 pg/L
Vanadium	One	192 µg/L

Each of the groundwater sample screening level exceedances were greater than MTCA Method A or B residential levels. These exceedances may not be significant if groundwater does not represent an exposure medium for current or future receptors. Groundwater underlying the site is not currently used as a domestic water supply and does not appear to be hydrologically connected to an aquifer used for drinking water. Therefore, additional consideration of groundwater contamination may not be required at this time.

3.4.2 Non-Landfill Area

Subsurface soil samples were collected from four soil borings (locations LF04, LF05, LF06, and LF14) on PWD property away from the Historical Landfill (Figure 3-1). Two to four soil samples were collected from each borehole location depending on sample recovery. Subsurface soil sample results are provided in Table 3-6 and a summary of subsurface soil results compared to screening levels is provided in Table 3-7. Groundwater samples were collected from two soil borings (LF04 and LF14). Groundwater sample results are provided in Table 3-8 and a summary of groundwater results compared to screening levels is provided in Table 3-9.

3.4.2.1 Subsurface Soil Samples

A total of eight subsurface soil samples were collected from the non-landfill area. Sample LF06SB04B was collected from approximately the same location and depth as sample LF06SB04 and was submitted only for PCDD/PCDF analysis in the absence of a PCDD/PCDF aliquot for location LF06SB04. Two VOCs, 20 SVOCs, three CL Pesticides, 16 TAL metals, and eight PCDD/PCDF congeners were detected in the subsurface soil samples. Screening levels were exceeded at all eight locations. The following analytes, including frequency of screening level exceedance and concentration ranges, exceeded one or more screening level concentrations:

Analyte	Sample Locations with Exceedances	Exceedance Concentration Range
Beryllium	Eight	0.25 to 0.36 mg/kg
Benzo(a)anthracene	One	2,200 µg/kg
Benzo(a)pyrene	One	1,100 µg/kg
Benzo(b)fluoranthene	One	1,200 µg/kg
Chrysene	One	3,200 µg/kg
Dibenz(a,h)anthracene	One	420 µg/kg
Indeno(1,2,3-cd)pyrene	One	1,200 µg/kg

The beryllium exceedances are all below the Washington State natural background average of 2 mg/kg as listed in *Natural Background Soil Metals Concentrations in Washington State*, Toxics Cleanup Program, WDOE, October, 1994 (WDOE 1994). Each of the subsurface soil sample screening level exceedances were greater than the applicable residential standards but were less than the applicable

industrial standards. Each organic analyte exceedance occurred at sample location LF14 at 8 to 12 feet bgs. Due to the isolated exceedance results and because detected concentrations were less than industrial levels, soil in the non-landfill area does not appear to warrant additional investigation.

3.4.2.2 Groundwater Samples

Two groundwater samples were collected from the non-landfill area. Five VOCs, two CL Pesticides, one PCB, 15 TAL metals, and two PCDF congeners were detected in the groundwater samples. Screening levels were exceeded at both locations. The following analytes, including frequency of screening level exceedance and exceedance ranges, exceeded one or more screening level concentrations:

Analyte	Sample Locations with Exceedances	Exceedance Concentration Range
Methylene Chloride	One	23 µg/L
Aroclor 1260	One	0.37 µg/L
Arsenic	Two	18.3 to 28.4 µg/L
Barium	Two	1,390 to 1,930 µg/L
Beryllium	Two	2.8 µg/L
Chromium	Two	234 to 762 µg/L
Lead	Two	45.1 to 86.3 µg/L
Manganese	Two	5,190 to 6,240 µg/L
Nickel	One	565 µg/L
Vanadium	Two	155 to 222 µg/L

Each of the groundwater sample screening level exceedances were greater than MTCA Method A or B residential levels. These exceedances may not be significant if groundwater does not represent an exposure medium for current or future receptors. Groundwater underlying the site is not currently used as a domestic water supply and does not appear to be hydrologically connected to an aquifer used for drinking water. Therefore, additional consideration of groundwater contamination may not be required at this time.

Table 3-1

**SAMPLE COLLECTION INFORMATION
WENATCHEE, WASHINGTON**

Date	Time	Station ID	Matrix	Depth ^a	Sample Description	Analyses
6/29/99	0800	LF01TB00	Water	N/A	Trip blank	VOCs
6/29/99	0800	LF01TB01	Water	N/A	Trip blank	VOCs
6/29/99	0930	LF01SB04	Subsurface soil	0' - 4' bgs	Dry gray to brown sand/gravel fill	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/29/99	1000	LF01SB12	Subsurface soil	8' - 12' bgs	Moist brown sand with silt and gravel; Red brick 9' - 10'; Wood at 10'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/29/99	1030	LF01SB22	Subsurface soil	18' - 22' bgs	Dry gray clay 18'; medium brown sand 19' - 20'; fine gray sand 22'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/29/99	1120	LF02SB04	Subsurface soil	0' - 4' bgs	Dry brown sand, little silt	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/29/99	1145	LF02SB12	Subsurface soil	8' - 12' bgs	Dry brown silt and sand, clay to 9'; dry white coarse sand 9' - 10'; dry brown silt and sand 10' - 11'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/29/99	1215	LF02SB22	Subsurface soil	18' - 22' bgs	Dry brown/gray sand	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/29/99	1430	LF02SB32	Subsurface soil	28' - 32' bgs	Dry brown/gray sand	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/29/99	1545	LF02GW32	Groundwater	32' bgs	Groundwater	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/30/99	0900	LF03SB04	Subsurface soil	0' - 4' bgs	Dry brown and gray sand with gravel	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/30/99	0920	LF03SB12	Subsurface soil	8' - 12' bgs	Brown sand, little gravel, clay, and silt; wood fragments 10' - 10.5'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/30/99	1740	LF03SB22	Subsurface soil	18' - 22' bgs	Dry black sand, rocks, and wood; wet at 22'; some garbage debris	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
6/30/99	1800	LF03SB32	Subsurface soil	28' - 32' bgs	Wet black organic sand with brown sand at 30' grading to gray sand at bottom; few fines	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs

Key is at the end of the table.

Table 3-1 (CONTINUED)

**SAMPLE COLLECTION INFORMATION
WENATCHEE, WASHINGTON**

Date	Time	Station ID	Matrix	Depth*	Sample Description	Analyses
6/30/99	1900	LF03GW22	Groundwater	32' bgs	Groundwater	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/30/99	1000	LF04SB04	Subsurface soil	0' - 4' bgs	Dry brown sand, little silt; trace gravel	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/30/99	1145	LF04SB12	Subsurface soil	8' - 12' bgs	Dry brown sand, trace silt and gravel	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
6/30/99	1400	LF04GW24	Groundwater	24' bgs	Groundwater	VOCs, SVOCs, CL Pesticides/PCBs, TAL metals, PCDDs/PCDFs
7/1/99	1100	LF05SB04	Subsurface soil	0' - 4' bgs	Dry brown sand with gravel	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/1/99	1140	LF05SB12	Subsurface soil	8' - 12' bgs	Dry brown sand with gravel	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
6/30/99	0830	LF01TB02	Water	N/A	Trip blank	VOCs
6/30/99	0830	LF01TB03	Water	N/A	Trip blank	VOCs
7/1/99	1240	LF06SB04	Subsurface soil	0' - 4' bgs	Dry brown sand with little gravel	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/1/99	1330	LF06SB12	Subsurface soil	8' - 12' bgs	Dry brown sand with trace gravel	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/1/99	1415	LF07SB04	Subsurface soil	0' - 4' bgs	Brown sand with gravel; little glass and paper from 3' - 3.5'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/1/99	1445	LF07SB12	Subsurface soil	8' - 12' bgs	Dry brown sand with gravel; Styrofoam and paper 8' - 10.5'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/1/99	1455	LF07SB22	Subsurface soil	18' - 22' bgs	Dry brown sand with gravel; wood chips and paper. Wet below 20'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/1/99	1620	LF08SB04	Subsurface soil	0' - 4' bgs	Dry brown sand, trace gravel and silt	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/1/99	1710	LF08SB12	Subsurface soil	8' - 12' bgs	Dry brown sand, gravel and silt	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs

Key is at the end of the table.

Table 3-1 (CONTINUED)

SAMPLE COLLECTION INFORMATION
WENATCHEE, WASHINGTON

Date	Time	Station ID	Matrix	Depth*	Sample Description	Analyses
7/2/99	0839	LF01RB00	Water	N/A	Rinsate blank	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/2/99	0845	LF01RB01	Water	N/A	Rinsate blank	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/6/99	1625	LF14SS00	Subsurface soil	0' - 4' bgs	Dry brown sand, gravel and silt	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/6/99	1720	LF14SB08	Subsurface soil	8' - 12' bgs	Dry brown sand, gravel and silt	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/7/99	1000	LF14GW24	Groundwater	24' bgs	Groundwater	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/7/99	1000	LF01TB04	Water	N/A	Trip blank	VOCs
7/7/99	1415	LF11SS00	Subsurface soil	0' - 4' bgs	Dry brown and gray sand	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/7/99	1505	LF11SB12	Subsurface soil	8' - 12' bgs	Dry dark gray/black sand with brown and white glass, charcoal 9' - 11'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/7/99	1540	LF11SB22	Subsurface soil	18' - 22' bgs	Dry gray sand and gravel to cobbles 18' - 21', gray gravel 21' - 22'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/7/99	1625	LF11GW24	Groundwater	24' bgs	Groundwater	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/8/99	0910	LF12SB04	Subsurface soil	0' - 4' bgs	Dry dark gray sand with a small interval of electric blue debris	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/8/99	0920	LF12SB12	Subsurface soil	8' - 12' bgs	Moist dark gray sandy loam	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/8/99	0935	LF12SB22	Subsurface soil	18' - 22' bgs	Dry gray sandy silt 18' - 20'; white quartzitic sand 20' - 20.5'; poorly sorted gray sand 20.5' - 22'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/8/99	1000	LF12SB29	Subsurface soil	25' - 29' bgs	Dry quartzitic gravel and very fine well-sorted sand; Geoprobe™ refusal at 29'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/8/99	0800	LF01TB05	Water	N/A	Trip blank	VOCs

Key is at the end of the table.

Table 3-1 (CONTINUED)

SAMPLE COLLECTION INFORMATION
WENATCHEE, WASHINGTON

Date	Time	Station ID	Matrix	Depth*	Sample Description	Analyses
7/8/99	1340	LF13SB04	Subsurface soil	0' - 4' bgs	Dry dark gray sand with gravel 0' - 2'; dry dark brown well-sorted sand 2' - 3'; dry light brown fine sand 3' - 4'; 1" diameter quartzitic rock	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/8/99	1400	LF13SB12	Subsurface soil	8' - 12' bgs	Dry dark gray very fine sand 8' - 10'; dry light brown quartzitic sand 10' - 12'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/8/99	1440	LF13SB22	Subsurface soil	18' - 22' bgs	Dry brown gravel 18' - 18.5'; Moist gray fine sorted sand 18.5' - 22'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/8/99	1625	LF13SB32	Subsurface soil	24' - 25' bgs	Moist dark gray well-sorted sand	TAL metals, VOCs, SVOCs
7/8/99	1745	LF06SB04B	Subsurface soil	0' - 4' bgs	Dry brown sand with little gravel	PCDDs/PCDFs
7/9/99	0900	LF09SB04	Subsurface soil	0' - 3' bgs	Dry fine sand and cobbles with white quartzitic rocks	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/9/99	0945	LF09SB12	Subsurface soil	8' - 12' bgs	Dry gray fine sand and pebbles 8' - 9.5'; Dry red-stained soil 9.5' - 10'; Dry gray fine well-sorted sand 10' - 12'	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs
7/9/99	0930	LF09SB22	Subsurface soil	18' - 21' bgs	Dry dark brown sand and gravel cobbles up to 3" diameter with white and black ground-up quartzitic granite	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/9/99	0700	LF01TB06	Water	N/A	Trip blank	VOCs
7/9/99	0705	LF01TB07	Water	N/A	Trip blank	VOCs
7/9/99	1350	LF01RB03	Water	N/A	Rinsate blank	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/9/99	1500	LF10SB04	Subsurface soil	0' - 4' bgs	Asphalt, gravel and sand	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs
7/9/99	1530	LF10SB12	Subsurface soil	8' - 12' bgs	Woody debris	TAL metals, VOCs, SVOCs, CL Pesticides/PCBs, PCDDs/PCDFs

Key is at the end of the table.

SAMPLE COLLECTION INFORMATION
WENATCHEE, WASHINGTON

Country	Year	Population	Area	Population Density	Area Density	Population per sq. km.	Area per sq. km.
Algeria	1960	10,000,000	2,381,472	420	1.7	420	1.7
Algeria	1965	11,000,000	2,381,472	462	1.8	462	1.8
Algeria	1970	12,000,000	2,381,472	504	2.0	504	2.0
Algeria	1975	13,000,000	2,381,472	546	2.2	546	2.2
Algeria	1980	14,000,000	2,381,472	588	2.4	588	2.4
Algeria	1985	15,000,000	2,381,472	630	2.6	630	2.6
Algeria	1990	16,000,000	2,381,472	672	2.8	672	2.8
Algeria	1995	17,000,000	2,381,472	714	3.0	714	3.0
Algeria	2000	18,000,000	2,381,472	756	3.2	756	3.2
Algeria	2005	19,000,000	2,381,472	798	3.4	798	3.4
Algeria	2010	20,000,000	2,381,472	840	3.6	840	3.6
Algeria	2015	21,000,000	2,381,472	882	3.8	882	3.8
Algeria	2020	22,000,000	2,381,472	924	4.0	924	4.0
Algeria	2025	23,000,000	2,381,472	966	4.2	966	4.2
Algeria	2030	24,000,000	2,381,472	1,008	4.4	1,008	4.4
Algeria	2035	25,000,000	2,381,472	1,050	4.6	1,050	4.6
Algeria	2040	26,000,000	2,381,472	1,092	4.8	1,092	4.8
Algeria	2045	27,000,000	2,381,472	1,134	5.0	1,134	5.0
Algeria	2050	28,000,000	2,381,472	1,176	5.2	1,176	5.2
Algeria	2055	29,000,000	2,381,472	1,218	5.4	1,218	5.4
Algeria	2060	30,000,000	2,381,472	1,260	5.6	1,260	5.6
Algeria	2065	31,000,000	2,381,472	1,302	5.8	1,302	5.8
Algeria	2070	32,000,000	2,381,472	1,344	6.0	1,344	6.0
Algeria	2075	33,000,000	2,381,472	1,386	6.2	1,386	6.2
Algeria	2080	34,000,000	2,381,472	1,428	6.4	1,428	6.4
Algeria	2085	35,000,000	2,381,472	1,470	6.6	1,470	6.6
Algeria	2090	36,000,000	2,381,472	1,512	6.8	1,512	6.8
Algeria	2095	37,000,000	2,381,472	1,554	7.0	1,554	7.0
Algeria	2100	38,000,000	2,381,472	1,596	7.2	1,596	7.2

[illegible][illegible]

100

Table 3-2

**LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON**

	Residential Cleanup Standards	Industrial Cleanup Standards	LF01SB04 0 - 4 ft bgs	LF01SB12 8 - 12 ft bgs	LF01SB22 18 - 22 ft bgs	LF02SB04 0 - 4 ft bgs	LF02SB12 8 - 12 ft bgs	LF02SB22 18 - 22 ft bgs	LF02SB32 28 - 32 ft bgs
LOCATION ID DEPTH									
VOCs (µg/kg)									
2-Butanone	6,900,000 ^d	27,000,000 ^d	4 J	3 J	13 J	2 J	11 U	31	2 J
Acetone	8,000,000 ^b	350,000,000	32 U	14 U	150 U	12 U	11 U	110	11 U
Benzene	500 ^a	500 ^a	11 U	12 U	14 U	11 U	11 U	13 U	11 U
Chlorobenzene	1,600,000 ^b	70,000,000 ^c	11 U	12 U	14 U	11 U	11 U	4 J	11 U
Ethylbenzene	20,000 ^a	20,000 ^a	11 U	2 J	14 U	11 U	11 U	8 J	11 U
Xylene (total)	20,000 ^a	20,000 ^a	3 J	14	14 U	2 J	2 J	43	11 U
SVOCs (µg/kg)									
2-Methylnaphthalene	-	-	350 UJ	99 J	460 U	350 U	350 U	420 U	380 U
Acenaphthene	4,800,000 ^b	210,000,000	350 UJ	400 UJ	460 U	350 U	350 U	420 U	380 U
Anthracene	24,000,000 ^b	100,000,000	350 UJ	400 UJ	460 U	350 U	350 U	420 U	380 U
Benzo(a)pyrene	137 ^b	18,000 ^c	58 J	400 UJ	460 U	350 U	350 U	44 J	380 U
Benzo(b)fluoranthene	137 ^b	18,000 ^c	350 UJ	400 UJ	460 U	350 U	350 U	48 J	380 U
Benzo(k)fluoranthene	137 ^b	18,000 ^c	350 UJ	400 UJ	460 U	350 U	350 U	48 J	380 U
Bis(2-ethylhexyl)phthalate	71,400 ^b	9,370,000 ^c	90 J	460 J	460 U	350 U	350 U	120 J	380 U
Butylbenzylphthalate	16,000,000 ^b	700,000,000	350 UJ	400 UJ	460 U	350 U	350 U	420 U	380 U
Carbazole	50,000 ^b	6,560,000 ^c	350 UJ	400 UJ	460 U	350 U	350 U	420 U	380 U
Chrysene	137 ^b	18,000 ^c	350 UJ	77 J	460 U	350 U	350 U	420 U	380 U
Di-n-butylphthalate	8,000,000 ^b	350,000,000	350 UJ	400 UJ	460 U	350 U	350 U	420 U	380 U
Dimethylphthalate	80,000,000 ^b	350,000,000	350 UJ	400 UJ	460 U	350 U	350 U	420 U	380 U
Fluoranthene	3,200,000 ^b	140,000,000	350 UJ	60 J	460 U	350 U	350 U	48 J	380 U
Fluorene	3,200,000 ^b	140,000,000	350 UJ	50 J	460 U	350 U	350 U	420 U	380 U
Naphthalene	3,200,000 ^b	140,000,000	350 UJ	160 J	460 U	350 U	350 U	420 U	380 U
Phenanthrene	-	-	350 UJ	140 J	460 U	350 U	80 J	420 U	380 U
Pyrene	2,400,000 ^b	105,000,000	59 J	87 J	460 U	350 U	52 J	57 J	380 U

Key is at the end of the table.

Table 3-2 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON

CLP INORGANIC NUMBER	Residential	Industrial	LF01SB04	LF01SB12	LF01SB22	LF02SB04	LF02SB12	LF02SB22	LF02SB32
LOCATION ID	Cleanup	Cleanup	0-4 ft bgs	8-12 ft bgs	18-22 ft bgs	0-4 ft bgs	8-12 ft bgs	18-22 ft bgs	28-32 ft bgs
DEPTH	Standards	Standards							
Pesticides/PCBs (µg/kg)									
4,4'-DDD	4,170 ^b	547,000 ^c	21	86	8.1	48	47	230 J	0.91 J
4,4'-DDE	2,940 ^b	386,000 ^c	12	100	6.1 J	42	23	180	0.87 J
4,4'-DDT	1,000 ^a	5,000 ^a	43	4.0 U	3.0 J	3.5 J	52	18	0.67 J
Aldrin	58.8 ^b	7,720 ^c	2.1 J	2.0 U	2.4 U	1.8 U	1.8 U	8.2	1.9 U
Alpha-BHC	159 ^b	20,800 ^c	1.8 U	2.0 U	2.4 U	1.8 U	1.8 U	4.4 U	1.9 U
Alpha-chlordane	769 ^b	101,000 ^c	1.8 U	4.5	1.1 J	3.7 J	1.8 U	6.1 J	1.9 U
Aroclor 1242	1,000 ^a	10,000 ^a	35 U	40 U	46 U	35 U	35 U	85 U	38 U
Aroclor 1254	1,000 ^a	10,000 ^a	35 U	40 U	46 U	35 U	35 U	85 U	38 U
Beta-BHC	556 ^b	72,900 ^c	1.8 U	2.2 J	2.4 U	1.8 U	1.8 U	5 J	1.9 U
Delta-BHC	-	-	1.8 U	2.0 U	2.4 U	1.8 U	1.8 U	5.0 J	1.9 U
Dieldrin	62.5 ^b	8,200 ^c	5.6	7.1 J	4.6 U	4.9	3.5 U	21	3.8 U
Endosulfan I	480,000 ^b	21,000,000 ^c	5.2	2.0 U	2.4 U	1.8 U	1.8 U	51	1.9 U
Endosulfan sulfate	-	-	4.9 J	4.0 U	4.6 U	3.5 U	3.5 U	8.5 U	3.8 U
Endrin	24,000 ^b	1,050,000 ^c	9.0 J	4.0 U	4.6 U	3.5 U	3.5 U	8.5 U	3.8 U
Endrin aldehyde	-	-	3.5 U	4.0 U	4.6 U	3.5 U	4.6 J	8.5 U	3.8 U
Endrin ketone	-	-	11 J	4.0 U	4.6 U	3.5 U	3.5 U	8.5 U	3.8 U
Gamma chlordane	-	-	1.9 J	7.6 J	1.8 J	3.0	2.0 J	13	1.9 U
Inorganics (µg/kg)									
Antimony	30 ^d	750 ^d	R	R	R	R	R	R	R
Arsenic	20 ^a	200.0 ^a	6.7 J	17.3 J	7.1 J	11.9 J	6.6 J	19.4 J	3.9 J
Barium	5,600 ^b	245,000 ^c	92.1	112	202	94.8	92.9	137	169
Beryllium	0.233 ^b	30.5 ^c	0.26 J	0.24 J	0.34 J	0.29 J	0.24 J	0.27 J	0.49 J
Cadmium	2 ^a	10.0 ^a	0.11 U	0.27 J	0.12 U	0.11 U	0.11 U	0.13 U	0.13 U
Chromium	100 ^a	500.0 ^a	20.4	22.8	62.5	18.4	19.1	26	29.7
Cobalt	3,300 ^d	29,000 ^d	6.8 J	6.4 J	13.7	6.9 J	6.7 J	7.9 J	14.7

Key is at the end of the table.

Table 3-2 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY

WENATCHEE, WASHINGTON

CIP INORGANIC NUMBER	Residential Cleanup Standards	Industrial Cleanup Standards	LF01SB04 0-4 ft-bgs	LF01SB12 8-12 ft-bgs	LF01SB22 18-22 ft-bgs	LF02SB04 0-4 ft-bgs	LF02SB12 8-12 ft-bgs	LF02SB22 18-22 ft-bgs	LF02SB32 28-32 ft-bgs
LOCATION ID									
DEPTH									
Inorganics (µg/kg)									
Copper	2,960 ^b	130,000 ^c	16.2	20.2	40.3	15.4	14.5	24.2	26.2
Lead	250 ^a	1,000.0 ^a	64.6 J	103 J	39.3 J	62.2 J	29.8 J	127 J	24.3 J
Manganese	11,200 ^b	490,000 ^c	316	344	462	349	308	420	1,780
Mercury	1.0 ^a	1.0 ^a	0.13	0.05 U	0.06 U	0.05 U	0.05 U	0.06 U	0.06 U
Nickel	1,600 ^b	70,000 ^c	14.9	15.0	61.9	13.7	12.0	23.6	31.5
Selenium	400 ^b	17,500 ^c	1.4 U	1.7 U	2.5 U	1.5 U	1.4 U	2.3	2.2
Silver	400 ^b	17,500 ^c	0.56 J	0.69 J	1.2 J	0.64 J	0.62 J	1.1 J	1.3 J
Thallium	5.6 ^b	245 ^c	0.87 J	1.1 J	1.7 J	1.0 J	0.96 J	0.93 J	2.1 J
Vanadium	560 ^b	24,500 ^c	36.2	37.4	71.8	35.8	35.6 J	41.2	74.1
Zinc	24,000 ^b	1,050,000 ^c	58.0 J	93.2 J	120 J	59.9 J	54.7 J	186 J	73.0 J
Dioxins/Furans (ng/kg)									
1,2,3,4,6,7,8-HpCDD	-	-	17.823 J	55.530	17.605	8.273	6.546	67.457	0.374
1,2,3,4,6,7,8-HpCDF	-	-	3.854 J	11.487	12.375	2.586	2.736 J	20.229	0.095 U
1,2,3,4,7,8,9-HpCDF	-	-	1.776 U	0.694 U	1.629 J	0.274 U	0.642 U	1.393	0.133 U
1,2,3,4,7,8,9-HxCDD	-	-	0.581 U	3.754 J	1.183 U	0.273 U	0.290 U	0.471 U	0.200 U
1,2,3,4,7,8-HxCDF	-	-	2.749 J	4.377 J	13.473 J	2.354 J	2.168 J	8.953 J	0.091 U
1,2,3,6,7,8-HxCDD	-	-	0.391 U	1.329 J	0.797 U	0.184 U	0.195 U	1.713	0.135 U
1,2,3,6,7,8-HxCDF	-	-	0.557 U	0.176 U	0.565 U	0.461 U	0.433 U	1.055 J	0.068 U
1,2,3,7,8,9-HxCDD	-	-	0.449 U	0.181 U	0.913 U	0.211 U	0.224 U	0.870	0.155 U
1,2,3,7,8,9-HxCDF	-	-	0.530 U	1.027 J	1.975 U	0.243 U	0.398 U	0.775 U	0.180 U
1,2,3,7,8-PeCDD	-	-	0.652 U	0.206 U	1.044	0.730 U	0.506 U	1.361	0.080 U
2,3,4,6,7,8-HxCDF	-	-	0.538 U	0.372 U	1.693	0.209 U	0.301 J	1.851 J	0.093 U
2,3,4,7,8-PeCDF	-	-	0.306 U	1.119 J	0.251 U	0.144 U	0.388 J	0.322 U	0.097 U
2,3,7,8-TCDD	-	-	0.224 U	0.7219	1.705	0.499	0.3798	1.880	0.414
2,3,7,8-TCDF	-	-	178.019 J	756.461	269.807	79.196	71.891	827.747	3.764 U
OCDD	-	-	5.307	23.689	30.361	3.743	4.122	53.484	0.212 U
OCDF	-	-	0.675	4.03	3.09	0.432	0.924	4.28	0.045
Total toxicity equivalency	6.67 ^b	875 ^c							

Key is at the end of the table.

Table 3-2 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON

LOCATION ID DEPTH	Residential		Industrial		LF03SB04		LF03SB12		LF03SB22		LF03SB32		LF07SB04		LF07SB12		LF07SB22	
	Cleanup Standards	Standards	Cleanup Standards	Standards	0 - 4 ft bgs	8 - 12 ft bgs	18 - 22 ft bgs	28 - 32 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	18 - 22 ft bgs	28 - 32 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	18 - 22 ft bgs	28 - 32 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs
VOCs (µg/kg)																		
2-Butanone	6,900,000 ^d	27,000,000 ^d	28	32	21	26	11 U	12	11 U	12	10 J							
Acetone	8,000,000 ^b	350,000,000	120	100	150	130	11 U	72 U	11 U	72 U	64 U							
Benzene	500 ^a	500 ^a	11 U	12 U	18 U	13 U	11 U	11 U	11 U	11 U	12 U							
Chlorobenzene	1,600,000 ^b	70,000,000 ^e	11 U	12 U	18 U	11 J	11 U	11 U	11 U	11 U	12 U							
Ethylbenzene	20,000 ^a	20,000 ^a	11 U	12 U	18 U	13 U	11 U	11 U	11 U	11 U	12 U							
Xylene (total)	20,000 ^a	20,000 ^a	11 U	12 U	18 U	13 U	11 U	11 U	11 U	11 U	12 U							
SVOCs (µg/kg)																		
2-Methylnaphthalene	-	-	360 U	380 U	200 J	420 U	720 U	66 J	720 U	350 U	410 U							
Acenaphthene	4,800,000 ^b	210,000,000	360 U	380 U	91 J	420 U	720 U	350 U	720 U	350 U	410 U							
Anthracene	24,000,000 ^b	100,000,000	360 U	380 U	91 J	420 U	720 U	350 U	720 U	350 U	410 U							
Benzo(a)pyrene	137 ^b	18,000 ^c	360 U	380 U	420 UJ	420 U	720 U	350 U	720 U	350 U	410 U							
Benzo(b)fluoranthene	137 ^b	18,000 ^c	360 U	380 U	420 UJ	420 U	720 U	350 U	720 U	350 U	410 U							
Benzo(k)fluoranthene	137 ^b	18,000 ^c	360 U	380 U	420 UJ	420 U	720 U	350 U	720 U	350 U	410 U							
Bis(2-ethylhexyl)phthalate	71,400 ^b	9,370,000 ^c	620	380 U	4,900 J	140 J	720 U	330 J	720 U	350 U	270 J							
Butylbenzylphthalate	16,000,000 ^b	700,000,000	360 U	380 U	1,600 J	420 U	720 U	350 U	720 U	350 U	410 U							
Carbazole	50,000 ^b	6,560,000 ^c	360 U	380 U	190 J	420 U	720 UJ	350 U	720 UJ	350 U	410 U							
Chrysene	137 ^b	18,000 ^c	360 U	57 J	120 J	420 U	720 U	350 U	720 U	350 U	410 U							
Di-n-butylphthalate	8,000,000 ^b	350,000,000	360 U	380 U	150 J	420 U	720 U	350 U	720 U	350 U	410 U							
Dimethylphthalate	80,000,000 ^b	350,000,000	360 U	380 U	420 UJ	420 U	720 U	350 U	720 U	350 U	410 U							
Fluoranthene	3,200,000 ^b	140,000,000	360 U	380 U	210 J	420 U	720 U	350 U	720 U	350 U	410 U							
Fluorene	3,200,000 ^b	140,000,000	360 U	380 U	130 J	420 U	720 U	350 U	720 U	350 U	410 U							
Naphthalene	3,200,000 ^b	140,000,000	360 U	380 U	160 J	420 U	720 U	350 U	720 U	350 U	410 U							
Phenanthrene	-	-	360 U	380 U	610 J	420 U	720 U	38 J	720 U	38 J	66 J							
Pyrene	2,400,000 ^b	105,000,000	360 U	39 J	230 J	420 U	210 J	79 J	210 J	79 J	410 U							

Key is at the end of the table.

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY

Kev is at the end of the table.

Table 3-2 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON

CLP INORGANIC NUMBER	Residential	Industrial	LF03SB04	LF03SB12	LF03SB22	LF03SB32	LF07SB04	LF07SB12	LF07SB22
LOCATION ID	Cleanup	Cleanup	0 - 4 ft bgs	8 - 12 ft bgs	18 - 22 ft bgs	28 - 32 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	18 - 22 ft bgs
DEPTH	Standards	Standards	Standards	Standards	Standards	Standards	Standards	Standards	Standards
Inorganics (µg/kg)									
Copper	2,960 ^b	130,000 ^c	15.1	15.3	35.8	18.3	13.0	17.1	85.7
Lead	250 ^a	1,000.0 ^a	88.8 J	385 J	165 J	13.2 J	132	35.6	437
Manganese	11,200 ^b	490,000 ^c	395	420	377	547	352	325	477
Mercury	1.0 ^a	1.0 ^a	0.05 U	0.05 U	0.06 U	0.06 U	0.05 U	0.05 U	0.08 J
Nickel	1,600 ^b	70,000 ^c	13.0	12.8	23.3	26.4	26.8 J	22.6 J	30.5 J
Selenium	400 ^b	17,500 ^c	1.5 U	1.7 U	2.6 U	1.8 U	1.5	1.1	2.2
Silver	400 ^b	17,500 ^c	0.79 J	0.71 J	1.3 J	0.93 J	0.69 J	0.84 J	1.6 J
Thallium	5.6 ^b	245 ^c	0.71 U	1.2 J	2.2 J	1.4 J	0.70 U	0.71 U	1.0 J
Vanadium	560 ^b	24,500 ^c	35.6	36.4	37.4	60.6	33.4	34.8	43.8
Zinc	24,000 ^b	1,050,000 ^c	57.1 J	227 J	248 J	69.0 J	78.3	160	505
Polynuclear Aromatic Hydrocarbons (pg/kg)									
1,2,3,4,6,7,8-HpCDD	-	-	25.827	8.306	NA	1.091	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	-	-	5.727	3.609	NA	0.090 U	NA	NA	NA
1,2,3,4,7,8,9-HpCDF	-	-	0.940 U	0.370 U	NA	0.127 U	NA	NA	NA
1,2,3,4,7,8-HxCDD	-	-	0.414 U	0.259 U	NA	0.145 U	NA	NA	NA
1,2,3,4,7,8-HxCDF	-	-	3.382 J	1.630 J	NA	0.096 U	NA	NA	NA
1,2,3,6,7,8-HxCDD	-	-	0.279 U	0.174 U	NA	0.098 U	NA	NA	NA
1,2,3,6,7,8-HxCDF	-	-	0.190 U	0.133 U	NA	0.072 U	NA	NA	NA
1,2,3,7,8,9-HxCDD	-	-	0.320 U	0.200 U	NA	0.112 U	NA	NA	NA
1,2,3,7,8,9-HxCDF	-	-	0.384 U	0.280 U	NA	0.102 U	NA	NA	NA
2,3,4,6,7,8-HxCDD	-	-	0.222 U	0.156 U	NA	0.084 U	NA	NA	NA
2,3,4,6,7,8-HxCDF	-	-	0.265 U	0.123 U	NA	0.077 U	NA	NA	NA
2,3,7,8-TCDD	-	-	0.175 U	0.133 U	NA	0.091 U	NA	NA	NA
2,3,7,8-TCDF	-	-	0.200 U	0.173 U	NA	0.417	NA	NA	NA
OCDD	-	-	356.889 J	67.347	NA	7.548 U	NA	NA	NA
OCDF	-	-	15.725	7.591	NA	0.168 U	NA	NA	NA
Total toxicity equivalency	6.67 ^b	875 ^c	1.02	0.357	NA	0.001	NA	NA	NA

Key is at the end of the table.

Table 3-2 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON

LOCATION ID DEPTH	Residential		Industrial		LF08SB04		LF08SB12		LF11SS00		LF11SB12		LF11SB22		LF12SB04		LF12SB12	
	Cleanup Standards	Standards	Cleanup Standards	Standards	0 - 4 ft bgs	8 - 12 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs
VOCs (µg/kg)																		
2-Butanone	6,900,000 ^a	27,000,000 ^d	11 U	3 J	21 U	1 J	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	9 J
Acetone	8,000,000 ^b	350,000,000	11 U	19 U	100 U	15 U	43	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	37 U
Benzene	500 ^a	500 ^a	11 U	12 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	2 J
Chlorobenzene	1,600,000 ^b	70,000,000 ^c	11 U	12 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	12 U
Ethylbenzene	20,000 ^a	20,000 ^a	11 U	12 U	17	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	24
Xylene (total)	20,000 ^a	20,000 ^a	11 U	12 U	46	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	11 U	90
SVOCs (µg/kg)																		
2-Methylnaphthalene	-	350 U	350 U	410 U	290 J	94 J	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	120 J
Acenaphthene	4,800,000 ^b	210,000,000	350 U	410 U	350 U	380 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	400 U
Anthracene	24,000,000 ^b	100,000,000	350 U	410 U	350 U	380 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	400 U
Benzo(a)pyrene	137 ^b	18,000 ^c	350 U	410 U	350 U	380 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	400 U
Benzo(b)fluoranthene	137 ^b	18,000 ^c	350 U	410 U	350 U	52 J	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	100 J
Benzo(k)fluoranthene	137 ^b	18,000 ^c	350 U	410 U	350 U	380 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	87 J
Bis(2-ethylhexyl)phthalate	71,400 ^b	9,370,000 ^c	86 J	68 J	72 J	300 J	230 J	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	820
Butylbenzylphthalate	16,000,000 ^b	700,000,000	350 U	410 U	350 U	380 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	92 J
Carbazole	50,000 ^b	6,560,000 ^c	350 U	410 U	350 U	380 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	400 U
Chrysene	137 ^b	18,000 ^c	350 U	410 U	350 U	71 J	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	130 J
Di-n-butylphthalate	8,000,000 ^b	350,000,000	350 U	410 U	350 U	380 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	50 J
Dimethylphthalate	80,000,000 ^b	350,000,000	350 U	410 U	350 U	380 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	400 U
Fluoranthene	3,200,000 ^b	140,000,000	350 U	410 U	350 U	120 J	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	75 J
Fluorene	3,200,000 ^b	140,000,000	350 U	410 U	140 J	380 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	400 U
Naphthalene	3,200,000 ^b	140,000,000	350 U	410 U	48 J	150 J	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	170 J
Phenanthrene	-	-	350 U	410 U	250 U	92 J	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	85 J
Pyrene	2,400,000 ^b	105,000,000	350 U	410 U	36 J	120 J	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	350 U	90 J

Key is at the end of the table.

Table 3-2 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON

CLP INORGANIC NUMBER	Residential	Industrial	LF08SB04	LF08SB12	LF11SB00	LF11SB12	LF11SB22	LF12SB04	LF12SB12
LOCATION ID	Cleanup	Cleanup	0 - 4 ft bgs	8 - 12 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	18 - 22 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs
DEPTH	Standards	Standards							
Pesticides/PCBs (pp/kg)									
4,4'-DDD	4,170 ^b	547,000 ^c	29	100	37	31	3.5 U	57	46
4,4'-DDE	2,940 ^b	386,000 ^c	52	24	17	17	2.6 J	54	36
4,4'-DDT	1,000 ^a	5,000 ^a	3.5 U	7.2 J	3.5 U	2.1 J	3 J	2.2 J	4.1 J
Aldrin	58.8 ^b	7,720 ^c	1.8 U	2.1 U	1.8 U	2.0 U	1.8 U	1.9 U	2.1 U
Alpha-BHC	159 ^b	20,800 ^c	1.8 U	2.1 U	1.8 U	2.0 U	1.8 U	1.9 U	2.1 U
Alpha-chlordane	769 ^b	101,000 ^c	2.0	26 J	5.5 J	2.0 U	1.8 U	1.9 U	3.4 J
Aroclor 1242	1,000 ^a	10,000 ^a	35 U	41 U	35 U	38 U	35 U	36 U	150 J
Aroclor 1254	1,000 ^a	10,000 ^a	35 U	41 U	35 U	38 U	35 U	36 U	40 U
Beta-BHC	556 ^b	72,900 ^c	1.8 U	3.3 J	1.9 U	4.1 J	1.8 U	1.9 U	2.1 U
Delta-BHC	-	-	1.8 U	2.1 U	1.8 U	2.0 U	1.8 U	1.9 U	2.1 U
Dieldrin	62.5 ^b	8,200 ^c	1.6 J	5.8 J	2.7 J	1.1 J	3.5 U	3.6 U	4.2
Endosulfan I	480,000 ^b	21,000,000 ^c	1.8 U	2.1 U	1.8 U	2.0 J	1.8 U	1.9 U	2.1 U
Endosulfan sulfate	-	-	3.5 U	4.1 U	3.5 U	3.8 U	3.5 U	3.6 U	4.0 U
Endrin	24,000 ^b	1,050,000 ^c	3.5 U	4.1 U	3.5 U	3.8 U	3.5 U	3.6 U	4.0 U
Endrin aldehyde	-	-	3.5 U	4.1 U	3.5 U	3.8 U	3.5 U	3.6 U	4.0 U
Endrin ketone	-	-	3.5 U	4.1 U	3.5 U	3.8 U	3.5 U	3.6 U	4.0 U
Gamma chlordane	-	-	2.6 J	28	6.2 J	2.6	1.8 U	1.9 U	4.6
Inorganics (pp/kg)									
Antimony	30 ^d	750 ^d	R	R	R	1.0 J	1.5 J	R	R
Arsenic	20 ^a	200.0 ^a	7.1 J	7.4 J	6.5 J	7.1 J	4.6 J	9.3 J	13.6 J
Barium	5,600 ^b	245,000 ^c	93.5	394	102	120	96.1	92.8	107
Beryllium	0.233 ^b	30.5 ^c	0.32 J	0.48 J	0.25 J	0.23 J	0.21 J	0.36 J	0.46 J
Cadmium	2 ^a	10.0 ^a	0.11 U	0.11 U	0.11 U	0.24 J	0.11 U	0.11 U	0.12 U
Chromium	100 ^a	500.0 ^a	21.6	34.9	21.6 J	21.4 J	18.3 J	18.7 J	18.2 J
Cobalt	3,300 ^d	29,000 ^d	6.8 J	8.6 J	6.8 J	6.6 J	6.7 J	6.7 J	7.1 J

Key is at the end of the table.

Table 3-2 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY

WENATCHEE, WASHINGTON

CLP INORGANIC NUMBER	Residential Cleanup	Industrial Standards	LF08SB04 0-4 ft bgs	LF08SB12 8-12 ft bgs	LF11SS00 0-4 ft bgs	LF11SB12 8-12 ft bgs	LF11SB22 18-22 ft bgs	LF12SB04 0-4 ft bgs	LF12SB12 8-12 ft bgs
LOCATION ID									
DEPTH									
Inorganics (ng/kg)									
Copper	2,960 ^b	130,000 ^c	16.1	42.7	26.3	42.9	23.2	15.5	22.9
Lead	250 ^a	1,000 ^d	92.3	164	230 J	104 J	20.2 J	35.5 J	121 J
Manganese	11,200 ^b	490,000 ^c	313	353	310	299	201	260	284
Mercury	1.0 ^a	1.0 ^b	0.05 U	0.05 U	0.05 U	0.90	0.05 U	0.05 U	0.06 U
Nickel	1,600 ^b	70,000 ^c	14.5 J	26.2 J	18.2	27.6	19.8	14.3	15.4
Selenium	400 ^b	17,500 ^c	1.6	1.9	1.6	1.7	1.4	1.5	1.7
Silver	400 ^b	17,500 ^c	0.87 J	1.1 J	0.76 J	1.3 J	0.77 J	0.75 J	1.0 J
Thallium	5.6 ^b	245 ^c	0.98 J	1.6 J	1.1 J	1.0 J	0.7 U	0.99 J	0.77 U
Vanadium	560 ^b	24,500 ^c	32.7	41.2	31.8	37.4	34.1	34.1	32.8
Zinc	24,000 ^b	1,050,000 ^c	59.4	151	96.8 J	269 J	80.7 J	50.5 J	134 J
Biocides/Purans (ng/kg)									
1,2,3,4,6,7,8-HpCDD			NA	NA	51,369	106,124 J	1,333 J	44,210 J	55,006
1,2,3,4,6,7,8-HpCDF			NA	NA	11,381	23,511	0.553	0.857 U	7,549
1,2,3,4,7,8,9-HpCDF			NA	NA	2,036 U	1,656 U	0.225 U	1,207 U	0,904 U
1,2,3,4,7,8-HxCDD			NA	NA	0.602 U	1,205 U	0.413 U	1,097 U	1,120 U
1,2,3,4,7,8-HxCDF			NA	NA	25,284 J	4,127 J	1,521 J	0,571 U	1,706 J
1,2,3,6,7,8-HxCDD			NA	NA	1,712 J	2,254 J	0,278 U	0,739 U	0,754 U
1,2,3,6,7,8-HxCDF			NA	NA	1,173	1,144 U	0,185 U	0,428 U	0,766 U
1,2,3,7,8,9-HxCDD			NA	NA	1,744 J	0,930 U	0,319 U	0,847 U	0,864 U
1,2,3,7,8,9-HxCDF			NA	NA	0,998 U	0,694 U	0,340 U	0,660 U	0,930 U
1,2,3,7,8-PeCDD			NA	NA	3,079	1,337 U	0,217 U	0,500 U	0,895 U
1,2,3,7,8-PeCDF			NA	NA	0,543 U	0,530 U	0,257 U	0,663 U	0,428 U
1,2,3,7,8-TCDD			NA	NA	0,331 U	0,553 U	0,308 U	0,369 U	0,413 U
1,2,3,7,8-TCDF			NA	NA	3,6197	0,341 U	0,148 U	0,288 U	0,328 U
OCDD			NA	NA	386,564 J	1,255,142 J	8,960	373,338 J	649,029
OCDF			NA	NA	19,036 J	35,485 J	0,423 U	8,921 J	28,63
Total toxicity equivalency	6.67 ^b	875 ^c	NA	NA	4,332	3,225	0,180	0,824	1,474

Key is at the end of the table.

Table 3-2 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON

LOCATION ID DEPTH	Residential		Industrial		LF12SB22		LF12SB29		LF13SB04		LF13SB12		LF13SB22		LF13SB32		LF09SB04	
	Cleanup Standards	Standards	Cleanup Standards	Standards	18 - 22 ft bgs	18 - 22 ft bgs	25 - 29 ft bgs	25 - 29 ft bgs	0 - 4 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	8 - 12 ft bgs	18 - 22 ft bgs	18 - 22 ft bgs	24 - 25 ft bgs	24 - 25 ft bgs	0 - 3 ft bgs	0 - 3 ft bgs
VOCs (µg/kg)																		
2-Butanone	6,900,000 ^d	27,000,000 ^d	10 U	12 U	10 U	12 U	14 U	14 U	14 U	14 U	15 U	15 U	11 U	12 U	12 U	12 U	40 J	40 J
Acetone	8,000,000 ^b	350,000,000	13 U	14 U	13 U	14 U	14 U	14 U	14 U	14 U	15 U	15 U	29 U	12 U	12 U	12 U	170	170
Benzene	500 ^a	500 ^a	10 U	12 U	10 U	12 U	12 U	12 U	11 U	11 U	15 U	15 U	11 U	12 U	12 U	12 U	11 U	11 U
Chlorobenzene	1,600,000 ^b	70,000,000 ^c	10 U	12 U	10 U	12 U	12 U	12 U	11 U	11 U	15 U	15 U	11 U	12 U	12 U	12 U	11 U	11 U
Ethylbenzene	20,000 ^a	20,000 ^a	10 U	12 U	10 U	12 U	12 U	12 U	11 U	11 U	15 U	15 U	11 U	12 U	12 U	12 U	11 U	11 U
Xylene (total)	20,000 ^a	20,000 ^a	1 J	12 U	1 J	12 U	12 U	12 U	11 U	11 U	15 U	15 U	11 U	12 U	12 U	12 U	11 U	11 U
SVOCs (µg/kg)																		
2-Methylnaphthalene			350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Acenaphthene	4,800,000 ^b	210,000,000	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Anthracene	24,000,000 ^b	100,000,000	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Benzo(a)pyrene	137 ^b	18,000 ^c	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Benzo(b)fluoranthene	137 ^b	18,000 ^c	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Benzo(k)fluoranthene	137 ^b	18,000 ^c	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Bis(2-ethylhexyl)phthalate	71,400 ^b	9,370,000 ^c	50 J	44 J	50 J	44 J	44 J	44 J	41 J	41 J	89 J	89 J	49 J	43 J	43 J	43 J	64 J	64 J
Butylbenzylphthalate	16,000,000 ^b	700,000,000	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Carbazole	50,000 ^b	6,560,000 ^c	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Chrysene	137 ^b	18,000 ^c	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Di-n-butylphthalate	8,000,000 ^b	350,000,000	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Dimethylphthalate	80,000,000 ^b	350,000,000	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Fluoranthene	3,200,000 ^b	140,000,000	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Fluorene	3,200,000 ^b	140,000,000	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Naphthalene	3,200,000 ^b	140,000,000	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Phenanthrene	-	-	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U
Pyrene	2,400,000 ^b	105,000,000	350 U	390 U	350 U	390 U	390 U	390 U	350 U	350 U	500 U	500 U	370 U	380 U	380 U	380 U	350 U	350 U

Key is at the end of the table.

Table 3-2 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY

WENATCHEE, WASHINGTON

CEP INORGANIC NUMBER	Residential	Industrial	LF12SB22	LF12SB29	LF13SB04	LF13SB12	LF13SB22	LF13SB32	LF09SB04
LOCATION ID	Cleanup	Cleanup	18 - 22 ft bgs	25 - 29 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	18 - 22 ft bgs	24 - 25 ft bgs	0 - 3 ft bgs
DEPTH	Standards	Standards	18 - 22 ft bgs	25 - 29 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs	18 - 22 ft bgs	24 - 25 ft bgs	0 - 3 ft bgs
Pesticides/PCBs (ppb/kg)									
4,4'-DDD	4,170 ^b	547,000 ^c	11	3.9 U	14	5.0 U	3.2 J	NA	2.7 J
4,4'-DDE	2,940 ^b	386,000 ^c	18	3.9 U	28	2.2 J	4.8	NA	6.9
4,4'-DDT	1,000 ^a	5,000 ^a	7.4	2.1 J	3.5 U	5.0 U	0.89 J	NA	2.6 J
Aldrin	58.8 ^b	7,720 ^c	1.8 U	2.0 U	1.8 U	2.6 U	1.9 U	NA	1.8 U
Alpha-BHC	159 ^b	20,800 ^c	1.8 U	2.0 U	1.8 U	2.6 U	1.9 U	NA	1.8 U
Alpha-chlordane	769 ^b	101,000 ^c	1.8 U	2.0 U	1.8 U	2.6 U	1.9 U	NA	1.8 U
Aroclor 1242	1,000 ^a	10,000 ^a	35 U	39 U	35 U	50 U	37 U	NA	35 U
Aroclor 1254	1,000 ^a	10,000 ^a	35 U	39 U	35 U	50 U	37 U	NA	35 U
Beta-BHC	556 ^b	72,900 ^c	1.8 U	2.0 U	1.8 U	2.6 U	1.9 U	NA	2.3 J
Delta-BHC	62.5 ^b	8,200 ^c	1.8 U	2.0 U	1.8 U	2.6 U	1.9 U	NA	1.8 U
Dieldrin	480,000 ^b	21,000,000 ^c	1.8 U	2.0 U	1.8 U	2.6 U	1.9 U	NA	3.5 U
Endosulfan I	480,000 ^b	21,000,000 ^c	1.8 U	2.0 U	1.8 U	2.6 U	1.9 U	NA	1.8 U
Endosulfan sulfate			3.5 U	3.9 U	3.5 U	5.0 U	3.7 U	NA	3.5 U
Endrin	24,000 ^b	1,050,000 ^c	5.5	0.80 J	3.5 U	5.0 U	3.7 U	NA	3.5 U
Endrin aldehyde			3.5 U	3.9 U	3.5 U	5.0 U	3.7 U	NA	3.5 U
Endrin ketone			0.65 J	3.9 U	3.5 U	5.0 U	3.7 U	NA	3.5 U
Gamma chlordane			1.8 U	2.0 U	1.8 U	2.6 U	1.9 U	NA	1.8 U
Inorganics (ppb/kg)									
Antimony	30 ^d	750 ^d	R	R	1.8 J	R	1.3 J	R	R
Arsenic	20 ^a	200 ^a	3.2 J	0.68 U	41.4 J	6.1 J	7.0 J	0.69 U	2.7 J
Barium	5,600 ^b	245,000 ^c	70.4	52.8	194	130	93.0	80.6	106
Beryllium	0.233 ^b	30.5 ^c	0.20 J	0.22 J	0.68 J	0.53 J	0.43 J	0.30 J	0.31 J
Cadmium	2 ^a	10 ^a	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.12 U	0.11 U
Chromium	100 ^a	500 ^a	8.8 J	16.8 J	45.8 J	31.6	24.8	30.2	17.0
Cobalt	3,300 ^d	29,000 ^d	4.5 J	6.6 J	7.5 J	8.3 J	7.5 J	6.5 J	6.6 J

Key is at the end of the table.

Table 3-2 (CONTINUED)

**LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON**

CLP INORGANIC NUMBER	Residential Cleanup Standards	Industrial Cleanup Standards	LF12SB22 18 - 22 ft bgs	LF12SB29 25 - 29 ft bgs	LF13SB04 0 - 4 ft bgs	LF13SB12 8 - 12 ft bgs	LF13SB22 18 - 22 ft bgs	LF13SB32 24 - 25 ft bgs	LF09SB04 0 - 3 ft bgs
DEPTH									
Inorganics (mg/kg)									
Copper	2,960 ^b	130,000 ^c	10.0	22.7	21.4	15.8	16.5	9.4	15.1
Lead	250 ^a	1,000.0 ^a	18.3 J	4.5 J	39.6	8.7	18.7	3.5	23.4
Manganese	11,200 ^b	490,000 ^c	220	217	401	251	283	242	284
Mercury	1.0 ^a	1.0 ^a	0.06 U	0.06 U	0.05 U	0.06 U	0.06 U	0.06 U	0.05 U
Nickel	1,600 ^b	70,000 ^c	11.4	11.3	26.2 J	18.1 J	26.6 J	17.1 J	23.5 J
Selenium	400 ^b	17,500 ^c	0.90 J	1.3	2.0	1.9	1.5	1.5	1.1
Silver	400 ^b	17,500 ^c	0.43 J	0.72 J	0.99 J	0.81 J	0.71 J	0.71 J	0.60 J
Thallium	5.6 ^b	245 ^c	0.69 U	0.74 U	1.5 J	1.2 J	1.0 J	1.0 J	0.70 U
Vanadium	560 ^b	24,500 ^c	23.8	34.1	60.0	46.3	33.5	40	24.7
Zinc	24,000 ^b	1,050,000 ^c	43.3 J	44 J	72.7	53.6	77.2	39.7	50.8
Dioxins/Furans (ng/kg)									
1,2,3,4,6,7,8-HpCDD	-	-	2.489 J	NA	0.511 U	3.448	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	-	-	0.591	NA	0.505 U	0.405 J	NA	NA	NA
1,2,3,4,7,8,9-HpCDF	-	-	0.354 U	NA	0.712 U	0.130 U	NA	NA	NA
1,2,3,4,7,8-HxCDD	-	-	0.457 U	NA	0.617 U	0.249 U	NA	NA	NA
1,2,3,4,7,8-HxCDF	-	-	0.348 U	NA	1.012 J	0.168 U	NA	NA	NA
1,2,3,6,7,8-HxCDD	-	-	0.308 U	NA	0.415 U	0.295	NA	NA	NA
1,2,3,6,7,8-HxCDF	-	-	0.261 U	NA	0.340 U	0.126 U	NA	NA	NA
1,2,3,7,8,9-HxCDD	-	-	0.353 U	NA	0.476 U	0.192 U	NA	NA	NA
1,2,3,7,8-PeCDD	-	-	0.303 U	NA	0.578 U	0.221 U	NA	NA	NA
2,3,4,6,7,8-HxCDF	-	-	0.305 U	NA	0.398 U	0.147 U	NA	NA	NA
2,3,4,7,8-PeCDF	-	-	0.210 U	NA	0.235 U	0.165 U	NA	NA	NA
2,3,7,8-TCDD	-	-	0.370 U	NA	0.408 U	0.164 U	NA	NA	NA
2,3,7,8-TCDF	-	-	0.421 U	NA	0.305 U	0.146 U	NA	NA	NA
OCDD	-	-	34.759	NA	12.649	37.974	NA	NA	NA
OCDF	-	-	1.357 J	NA	0.634 U	1.157	NA	NA	NA
Total toxicity equivalency	6.67 ^b	875 ^c	0.067	NA	0.114	0.107	NA	NA	NA

Key is at the end of the table.

Table 3-2 (CONTINUED)

Table 3-2 (CONTINUED)						
LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY						
WENATCHEE, WASHINGTON						
	Residential	Industrial				
LOCATION ID	Cleanup	Cleanup	LF09SB12	LF09SB22	LF10SB04	LF10SB12
DEPTH	Standards	Standards	8 - 12 ft bgs	18 - 21 ft bgs	0 - 4 ft bgs	8 - 12 ft bgs
VOCs (µg/kg)						
2-Butanone	6,900,000 ^d	27,000,000 ^d	11-U	12-U	11-U	13-U
Acetone	8,000,000 ^b	350,000,000	62-U	37-U	78-U	13-U
Benzene	500 ^a	1,500 ^a	11-U	12-U	11-U	13-U
Chlorobenzene	1,600,000 ^b	70,000,000 ^c	11-U	12-U	11-U	13-U
Ethylbenzene	20,000 ^a	20,000 ^a	11-U	12-U	11-U	13-U
Xylene (total)	20,000 ^a	20,000 ^a	11-U	12-U	11-U	13-U
SVOCs (µg/kg)						
2-Methylnaphthalene	-	-	360-U	390-U	750-J	160-J
Acenaphthene	4,800,000 ^b	210,000,000	360-U	390-U	350-U	420-U
Anthracene	24,000,000 ^b	100,000,000	360-U	390-U	350-U	420-U
Benzo(a)pyrene	137 ^b	18,000 ^c	360-U	390-U	350-U	70-J
Benzo(b)fluoranthene	137 ^b	18,000 ^c	360-U	390-U	350-U	420-U
Benzo(k)fluoranthene	137 ^b	18,000 ^c	360-U	390-U	350-U	420-U
Bis(2-ethylhexyl)phthalate	71,400 ^b	9,370,000 ^c	360-U	2,400	350-U	420-U
Butylbenzylphthalate	16,000,000 ^b	700,000,000	360-U	390-U	350-U	420-U
Carbazole	50,000 ^b	6,560,000 ^c	360-U	390-U	350-U	420-U
Chrysene	137 ^b	18,000 ^c	360-U	390-U	350-U	540
Di-n-butylphthalate	8,000,000 ^b	350,000,000	360-U	390-U	350-U	420-U
Dimethylphthalate	80,000,000 ^b	350,000,000	360-U	390-U	350-U	420-U
Fluoranthene	3,200,000 ^b	140,000,000	360-U	390-U	350-U	420-U
Fluorene	3,200,000 ^b	140,000,000	360-U	390-U	350-U	420-U
Naphthalene	3,200,000 ^b	140,000,000	360-U	390-U	180-J	120-J
Phenanthrene	-	-	360-U	390-U	350-U	420-U
Pyrene	2,400,000 ^b	105,000,000	360-U	390-U	49-J	97-J

Key is at the end of the table.

Table 3-2 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON

CLP INORGANIC NUMBER	Residential Cleanup Standards	Industrial Cleanup Standards	LF09SB12 8 - 12 ft bgs	LF09SB22 18 - 21 ft bgs	LF10SB04 0 - 4 ft bgs	LF10SB12 8 - 12 ft bgs
LOCATION ID						
DEPTH						
Pesticides/PCBs (µg/kg)						
4,4'-DDD	4,170 ^b	547,000 ^c	90	3.9 U	16	44
4,4'-DDE	2,940 ^b	386,000 ^c	24	3.9 U	12	25
4,4'-DDT	1,000 ^a	5,000 ^a	7.2 U	3.9 U	3.5 U	4.3 U
Aldrin	58.8 ^b	7,720 ^c	3.7 U	2.0 U	1.8 U	2.2 U
Alpha-BHC	159 ^b	20,800 ^c	3.7 U	2 U	1.8 U	2.2 U
Alpha-chlordane	769 ^b	101,000 ^c	3.7 U	2.0 U	1.8 U	3.9 U
Aroclor 1242	1,000 ^a	10,000 ^a	72 U	39 U	35 U	43 U
Aroclor 1254	1,000 ^a	10,000 ^a	72 U	39 U	35 U	43 U
Beta-BHC	556 ^b	72,900 ^c	3.7 U	2.0 U	1.8 U	2.2 U
Delta-BHC	-	-	3.7 U	2.0 U	1.8 U	2.2 U
Dieldrin	62.5 ^b	8,200 ^c	7.2 U	3.9 U	3.5 U	4.3 U
Endosulfan I	480,000 ^b	21,000,000 ^c	3.7 U	2.0 U	1.8 U	2.2 U
Endosulfan sulfate	-	-	7.2 U	3.9 U	3.5 U	4.3 U
Endrin	24,000 ^b	1,050,000 ^c	7.2 U	3.9 U	3.5 U	4.3 U
Endrin aldehyde	-	-	7.2 U	3.9 U	3.5 U	4.3 U
Endrin ketone	-	-	7.2 U	3.9 U	3.5 U	4.3 U
Gamma chlordane	-	-	2.4 J	2.0 U	0.60 J	4.6 J
Inorganics (µg/kg)						
Antimony	30 ^d	750 ^d	0.88 J	R	R	4.3 J
Arsenic	20 ^b	200 ^c	8.0 J	1.9 J	5.3	9.1
Barium	5,600 ^b	245,000 ^c	141	152	94.5	106
Beryllium	0.233 ^b	30.5 ^c	0.41 J	0.35 J	0.19 J	0.30 J
Cadmium	2 ^b	10.0 ^c	0.11 U	0.11 U	0.11 U	0.11 U
Chromium	100 ^a	500.0 ^c	28.9	40.5	24.6 J	22.4 J
Cobalt	3,300 ^d	29,000 ^d	8.2 J	6.4 J	7.5 J	7.0 J

Key is at the end of the table.

Table 3-2 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY

WENATCHEE, WASHINGTON

CLP INORGANIC NUMBER	Residential Cleanup Standards	Industrial Cleanup Standards	LF09SB12 8 - 12 ft bgs	LF09SB22 18 - 21 ft bgs	LF10SB04 0 - 4 ft bgs	LF10SB12 8 - 12 ft bgs
LOCATION ID						
DEPTH						
Inorganics (µg/kg)						
Copper	2,960 ^b	130,000 ^c	34.4	15.3	16.5	19.1
Lead	250 ^a	1,000.0 ^a	81.5	53	33.8 J	97.6 J
Manganese	11,200 ^b	490,000 ^c	315	306	320 J	388 J
Mercury	1.0 ^a	1.0 ^a	0.08 J	0.05 U	0.05 U	0.05 U
Nickel	1,600 ^b	70,000 ^c	25.2 J	34.8 J	19.2	17.6
Selenium	400 ^b	17,500 ^c	1.7	1.7	1.9 UJ	1.6 UJ
Silver	400 ^b	17,500 ^c	1.1 J	0.89 J	0.72 J	1.3 J
Thallium	5.6 ^b	245 ^c	1.3 J	0.89 J	0.90 J	0.99 J
Vanadium	560 ^b	24,500 ^c	43.7	43.8	38.2	38.7
Zinc	24,000 ^b	1,050,000 ^c	163	41.5	48.6 J	68.7 J
Dioxins/Furans (pg/kg)						
1,2,3,4,6,7,8-HpCDD	-	-	NA	0.315 U	4.648	45.687
1,2,3,4,6,7,8-HpCDF	-	-	NA	0.211 U	1.951	10.253
1,2,3,4,7,8,9-HpCDF	-	-	NA	0.297 U	0.897 U	1.729 U
1,2,3,4,7,8-HxCDD	-	-	NA	0.325 U	0.687 U	2.461 J
1,2,3,4,7,8-HxCDF	-	-	NA	0.232 U	0.636 U	3.476 J
1,2,3,6,7,8-HxCDD	-	-	NA	0.219 U	0.463 U	0.521 U
1,2,3,6,7,8-HxCDF	-	-	NA	0.174 U	0.477 U	0.622 U
1,2,3,7,8,9-HxCDD	-	-	NA	0.251 U	0.530 U	0.597 U
1,2,3,7,8,9-HxCDF	-	-	NA	0.367 U	0.414 U	0.696 U
2,3,4,6,7,8-HxCDD	-	-	NA	0.203 U	0.558 U	0.727 U
2,3,4,6,7,8-HxCDF	-	-	NA	0.182 U	0.485 U	0.463 U
2,3,4,7,8-PeCDF	-	-	NA	0.293 U	0.355 U	0.405 U
2,3,7,8-TCDD	-	-	NA	0.181 U	0.258 U	0.383 U
2,3,7,8-TCDF	-	-	NA	4.186	39.274	698.404
OCDD	-	-	NA	0.377 U	5.248	34.709
OCDF	-	-	NA	0.004	0.111	1.886
Total toxicity equivalency	6.67 ^b	875 ^c	NA			

Key is at the end of the table.

WDOE Member Cleaning Level:

Underline indicates concentrations above one or more comparison standards.

WDOE = Washington Department of Ecology

1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation $f(x) = \sum_{n=0}^{\infty} a_n x^n$, where $a_n = \frac{1}{n!}$. It is shown that $f(x)$ is a continuous function on the interval $[0, 1]$ and that it is differentiable at $x=0$ with $f'(0) = 1$. The function $f(x)$ is also shown to be concave down on the interval $[0, 1]$.

Table 3-3

LANDFILL SUBSURFACE SOIL SAMPLE SCREENING LEVEL SUMMARY
WENATCHEE, WASHINGTON

Analyte	Range of Detection Limits	Range of Detected Concentrations*	Frequency of Detection	Frequency of Exceedence of Screening Level	Screening Level Source	Residential Cleanup Standards	Industrial Cleanup Standards
VOCs (µg/kg)							
2-Butanone	10 - 21	1 - 40	16 / 32	0 / 32	EPA Region 9 PRG	6,900,000 ^d	27,000,000 ^d
Acetone	10 - 150	43 - 170	7 / 32	0 / 32	MTCA Method B	8,000,000 ^b	350,000,000 ^c
Benzene	10 - 18	2	1 / 32	0 / 32	MTCA Method A	500 ^a	500 ^a
Chlorobenzene	10 - 18	1 - 4	2 / 32	0 / 32	MTCA Method B	1,600,000 ^b	70,000,000 ^c
Ethylbenzene	10 - 18	2 - 24	4 / 32	0 / 32	MTCA Method A	20,000 ^a	20,000 ^a
Xylene (total)	10 - 18	2 - 90	8 / 32	0 / 32	MTCA Method A	20,000 ^a	20,000 ^a
SVOCs (µg/kg)							
2-Methylnaphthalene	350 - 720	58 - 750	9 / 32	NA	NA	NA	NA
Acenaphthene	350 - 720	91	1 / 32	0 / 32	MTCA Method B	4,800,000 ^b	210,000,000 ^c
Anthracene	350 - 720	91	1 / 32	0 / 32	MTCA Method B	24,000,000 ^b	100,000,000 ^c
Benzo(a)pyrene	350 - 720	44 - 70	3 / 32	0 / 32	MTCA Method B	137 ^b	18,000 ^c
Benzo(b)fluoranthene	350 - 720	48 - 100	4 / 32	0 / 32	MTCA Method B	137 ^b	18,000 ^c
Benzo(k)fluoranthene	350 - 720	48 - 87	2 / 32	0 / 32	MTCA Method B	137 ^b	18,000 ^c
Bis(2-ethylhexyl)phthalate	350 - 720	41 - 4900	23 / 32	0 / 32	MTCA Method B	71,400 ^b	9,370,000 ^c
Butylbenzylphthalate	350 - 720	92 - 1600	3 / 32	0 / 32	MTCA Method B	16,000,000 ^b	700,000,000 ^c
Carbazole	350 - 720	190	1 / 32	0 / 32	MTCA Method B	50,000 ^b	6,560,000 ^c
Chrysene	350 - 720	57 - 540	6 / 32	1 / 32	MTCA Method B	137 ^b	18,000 ^c
Di-n-butylphthalate	350 - 720	50 - 150	2 / 32	0 / 32	MTCA Method B	8,000,000 ^b	350,000,000 ^c
Dimethylphthalate	350 - 720	80	1 / 32	0 / 32	MTCA Method B	80,000,000 ^b	350,000,000 ^c
Fluoranthene	350 - 720	48 - 210	6 / 32	0 / 32	MTCA Method B	3,200,000 ^b	140,000,000 ^c
Fluorene	350 - 720	50 - 140	3 / 32	0 / 32	MTCA Method B	3,200,000 ^b	140,000,000 ^c
Naphthalene	350 - 720	48 - 180	8 / 32	0 / 32	MTCA Method B	3,200,000 ^b	140,000,000 ^c
Phenanthrene	350 - 720	38 - 610	7 / 32	0 / 32	MTCA Method B	3,200,000 ^b	140,000,000 ^c
Pyrene	350 - 720	36 - 230	13 / 32	0 / 32	MTCA Method B	2,400,000 ^b	105,000,000 ^c

Key at end of the table.

Table 3-3 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE SCREENING LEVEL SUMMARY
WENATCHEE, WASHINGTON

Analyte	Range of Detection Limits	Range of Detected Concentrations*	Frequency of Detection	Frequency of Exceedence of Screening Level	Screening Level Source	Residential Cleanup Standards	Industrial Cleanup Standards
Pesticides/PCBs (µg/kg)							
4,4'-DDD	1.8 - 9.6	0.51 - 660	27/32	0/32	MTCA Method B	4,170 ^b	547,000 ^c
4,4'-DDE	1.8 - 9.6	0.63 - 210	29/32	0/32	MTCA Method B	2,940 ^b	386,000 ^c
4,4'-DDT	1.8 - 9.6	0.67 - 52	22/32	0/32	MTCA Method A	1,000 ^a	5,000 ^a
Aldrin	1.8 - 9.6	2.1 - 8.2	2/32	0/32	MTCA Method B	58.8 ^b	7,720 ^c
Alpha-BHC	1.8 - 9.6	4.2 - 22	2/32	0/32	MTCA Method B	159 ^b	20,800 ^c
Alpha-chlordane	1.8 - 9.6	1.1 - 26	9/32	0/32	MTCA Method B	769 ^b	101,000 ^c
Atroclor 1242	35 - 190	150	1/32	0/32	MTCA Method A	1,000 ^a	10,000 ^a
Atroclor 1254	35 - 190	40 - 470	2/32	0/32	MTCA Method A	1,000 ^a	10,000 ^a
Beta-BHC	1.8 - 9.6	2.2 - 16	8/32	0/32	MTCA Method B	556 ^b	72,900 ^c
Delta-BHC	1.8 - 9.6	5	1/32	NA	NA	NA	NA
Dieldrin	3.5 - 19	1.1 - 21	13/32	0/32	MTCA Method B	62.5 ^b	8,200 ^c
Endosulfan I	1.8 - 9.6	2.0 - 51	3/32	0/32	MTCA Method B	480,000 ^b	21,000,000 ^c
Endosulfan sulfate	3.5 - 19	3.7 - 11	3/32	NA	NA	NA	NA
Endrin	3.5 - 19	0.80 - 9.0	5/32	0/32	MTCA Method B	24,000 ^b	1,050,000 ^c
Endrin aldehyde	3.5 - 19	4.6 - 5.4	2/32	NA	NA	NA	NA
Endrin ketone	3.5 - 19	0.65 - 11	4/32	NA	NA	NA	NA
Gamma chlordane	1.8 - 9.6	0.60 - 28	16/32	NA	NA	NA	NA
Inorganics (mg/kg)							
Antimony	0.60 - 0.88	0.88 - 4.3	9/32	0/32	EPA Region 9 PRG	30 ^d	750 ^d
Arsenic	0.66 - 0.89	1.6 - 43.9	30/32	4/32	MTCA Method A	20 ^a	200.0 ^a
Barium	0.14 - 0.21	52.8 - 394	33/32	0/32	MTCA Method B	5,600 ^b	245,000 ^c
Beryllium	0.08 - 0.21	0.16 - 0.68	33/32	24/32	MTCA Method B	0.233 ^b	30.5 ^c
Cadmium	0.10 - 0.11	0.24 - 1.2	5/32	0/32	MTCA Method A	2 ^a	10.0 ^a
Chromium	0.20 - 0.30	8.8 - 62.5	32/32	0/32	MTCA Method A	100 ^a	500.0 ^a
Cobalt	0.44 - 0.67	4.5 - 14.7	32/32	0/32	EPA Region 9 PRG	3,300 ^d	29,000 ^d

Key at end of the table.

Table 3-3 (CONTINUED)

Table 3-3 (CONTINUED)							
LANDFILL SUBSURFACE SOIL SAMPLE SCREENING LEVEL SUMMARY							
WENATCHEE, WASHINGTON							
Analyte	Range of Detection Limits	Range of Detected Concentrations*	Frequency of Detection	Frequency of Exceedence of Screening Level	Screening Level Source	Residential Cleanup Standards	Industrial Cleanup Standards
Inorganics (mg/kg)							
Copper	0.50 - 0.76	9.4 - 85.7	32 / 32	0 / 32	MTCA Method B	2,960 ^b	130,000 ^c
Lead	0.34 - 0.52	3.5 - 437	32 / 32	2 / 32	MTCA Method A	250 ^b	1,000.0 ^b
Manganese	0.12 - 0.18	201 - 1780	32 / 32	0 / 32	MTCA Method B	11,200 ^b	490,000 ^c
Mercury	0.05 - 0.06	0.08 - 0.90	4 / 32	0 / 32	MTCA Method A	1.0 ^b	1.0 ^b
Nickel	0.50 - 0.76	11.3 - 61.9	32 / 32	0 / 32	MTCA Method B	1,600 ^b	70,000 ^c
Selenium	1.1 - 2.7	0.90 - 2.3	21 / 32	0 / 32	MTCA Method B	400 ^b	17,500 ^c
Silver	0.28 - 0.42	0.43 - 1.6	32 / 32	0 / 32	MTCA Method B	400 ^b	17,500 ^c
Thallium	0.65 - 0.88	0.87 - 2.2	24 / 32	0 / 32	MTCA Method B	5.6 ^b	245 ^c
Vanadium	0.28 - 0.42	23.8 - 74.1	32 / 32	0 / 32	MTCA Method B	560 ^b	24,500 ^c
Zinc	0.48 - 0.73	39.7 - 505	32 / 32	0 / 32	MTCA Method B	24,000 ^b	1,050,000 ^c
Dioxins/Furans (ng/kg)							
1,2,3,4,6,7,8-HpCDD	0.32 - 0.51	0.374 - 106.124	19 / 21	NA	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	0.09 - 2.4	0.405 - 23.511	16 / 21	NA	NA	NA	NA
1,2,3,4,7,8,9-HpCDF	0.13 - 2.0	1.393 - 1.629	2 / 21	NA	NA	NA	NA
1,2,3,4,7,8-HxCDD	0.14 - 1.2	2.461 - 3.754	2 / 21	NA	NA	NA	NA
1,2,3,4,7,8-HxCDF	0.09 - 0.64	1.012 - 25.284	14 / 21	NA	NA	NA	NA
1,2,3,6,7,8-HxCDD	0.09 - 0.8	0.295 - 2.254	5 / 21	NA	NA	NA	NA
1,2,3,6,7,8-HxCDF	0.07 - 1.1	1.055 - 1.173	2 / 21	NA	NA	NA	NA
1,2,3,7,8,9-HxCDD	0.1 - 2.2	0.870 - 1.744	2 / 21	NA	NA	NA	NA
1,2,3,7,8-PeCDD	0.1 - 2.0	1.027	1 / 21	NA	NA	NA	NA
2,3,4,6,7,8-HxCDF	0.08 - 0.9	1.044 - 3.079	3 / 21	NA	NA	NA	NA
2,3,4,7,8-PeCDF	0.08 - 4.8	0.301 - 1.851	3 / 21	NA	NA	NA	NA
2,3,7,8-TCDD	0.09 - 0.55	0.388 - 1.119	2 / 21	NA	NA	NA	NA

Key at end of the table.

WENATCHEE, WASHINGTON
 WENATCHEE LANDFILL
 WENATCHEE, WASHINGTON

Table 3-3 (CONTINUED)

LANDFILL SUBSURFACE SOIL SAMPLE SCREENING LEVEL SUMMARY

WENATCHEE, WASHINGTON

Analyte	Range of Detection Limits	Range of Detected Concentrations*	Frequency of Detection	Frequency of Exceedence of Screening Level	Screening Level Source	Residential Cleanup Standards	Industrial Cleanup Standards
Dioxins/Furans (ng/kg)							
2,3,7,8-TCDF	0.12 - 0.42	0.3798 - 3.6197	8 / 21	NA	NA	NA	NA
OCDD	3.7 - 15.9	4.186 - 1255.142	19 / 21	NA	NA	NA	NA
OCDF	0.16 - 12.0	1.157 - 53.484	16 / 21	NA	NA	NA	NA
Total toxicity equivalency	-	0.001 - 4.332	21 / 21	0 / 21	MTCA Method B	6.67 ^b	875 ^c

* Detected concentrations less than the associated detection limits are considered estimated quantities

^a WDOE Method A cleanup level.^b WDOE Method B cleanup level.^c WDOE Method C cleanup level.^d EPA, Region 9, PRG.

Key:

EPA = United States Environmental Protection Agency.

µg/kg = Micrograms per kilogram.

mg/kg = Milligrams per kilogram.

MTCA = Model Toxics Control Act.

NA = Not analyzed.

ng/kg = Nanograms per kilogram.

PCBs = Polychlorinated biphenyls.

PRG = Preliminary remediation goal.

SVOCs = Semivolatile organic compounds.

VOCs = Volatile organic compounds.

WDOE = Washington Department of Ecology.

Table 3-4

**LANDFILL GROUNDWATER SAMPLE
ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON**

	Groundwater			
LOCATION ID	Cleanup	LF02GW32	LF03GW32	LF11GW24
DEPTH	Standards	32 ft bgs	32 ft bgs	24 ft bgs
VOCs (µg/L)				
1,2-Dichloroethane	0.481 ^b	10 U	100 U	21
Acetone	800 ^b	2 J	130	10 U
Benzene	5 ^a	2 J	100 U	10 U
Carbon Disulfide	800 ^b	2 J	100 U	10 U
Chlorobenzene	160 ^b	5 J	100 U	10 U
Methylene Chloride	5 ^a	10 U	420	10 U
Tetrachloroethene	5 ^a	10 U	100 U	1 J
Xylene (total)	20 ^a	2 J	100 U	10 U
SVOCs (µg/L)				
2-Methylnaphthalene	-	10 U	2 J	10 U
2-Methylphenol	800 ^b	5 J	10 U	10 U
4-Methylphenol	80 ^b	3 J	1 J	10 U
Bis(2-ethylhexyl)phthalate	6.25 ^b	10 U	6 J	10 U
Diethylphthalate	12,800 ^b	10 U	2 J	3 J
Naphthalene	320 ^b	1 J	3 J	10 U
Phenol	9,600 ^b	3 J	10 U	10 U
Pesticides/PCBs (µg/L)				
4,4'-DDD	0.365 ^b	0.10 U	1.3 J	0.041 J
4,4'-DDE	0.257 ^b	0.10	0.61 J	0.10 U
Aroclor1260	0.1 ^a	1.0 U	1.0 U	0.41 J
Inorganics (µg/L)				
Antimony	15 ^c	6.8 J	3 UJ	3.0 UJ
Arsenic	5 ^a	27.5	45.6	7.1 J
Barium	1,120 ^b	1,330 J	1,930 J	621 J
Beryllium	0.0203 ^b	0.40 U	2 J	0.82 J
Cadmium	5 ^a	2.4 J	5.2	1.1 J
Chromium	50 ^a	74.9	370	541
Cobalt	2,200 ^c	38.9 J	64.8	30.8 J
Copper	592 ^b	69.1	200	92.1
Lead	5 ^a	130 J	487 J	16.5 J
Manganese	2,240 ^b	1,880 J	2,430 J	2,470 J
Mercury	2 ^a	0.16 J	0.45	0.10 UJ
Nickel	320 ^b	73.3	306	363
Selenium	80 ^b	5.8 J	19.7 J	5.8 J
Silver	80 ^b	1.4 UJ	4.2 J	1.4 UJ

Key is at the end of the table.

Table 3-4 (CONTINUED)

**LANDFILL GROUNDWATER SAMPLE
ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON**

	Groundwater			
LOCATION ID	Cleanup	LF02GW32	LF03GW32	LF11GW24
DEPTH	Standards	32 ft bgs	32 ft bgs	24 ft bgs
Inorganics (pp/L)				
Vanadium	112 ^b	66.2	<u>192</u>	96.9
Zinc	4,800 ^b	551 J	2,600 J	140 J
Dioxins/Furans (pg/L)				
1,2,3,4,6,7,8-HpCDF	-	6.746 UJ	32.134 J	4.390 U
1,2,3,4,7,8-HxCDF	-	6.531 UJ	11.583 J	2.998 U
OCDD	-	433.420 UJ	1,037.870	13.882 U
OCDF	-	11.998 UJ	122.027	3.598 U
Total Toxicity Equivalency	0.583^b	0.000	1.6	0.000

Note: Bold type indicates concentrations above sample quantitation limits or detection limits.

Underline indicates concentrations above one or more comparison standards.

Key:

a = WDOE Method A cleanup level.

b = WDOE Method B cleanup level.

c = EPA, Region 9, PRG (Tap Water).

bgs = Below ground surface.

CLP = Contract Laboratory Program.

EPA = United States Environmental Protection Agency.

ft = Feet.

ID = Identification.

J = The analyte was positively identified. The associated numerical value is an estimate.

mg/L = Micrograms per liter.

NA = Not analyzed.

pg/L = Picograms per liter.

PCBs = Polychlorinated biphenyls.

PRG = Preliminary remediation goal.

SVOC = Semivolatile organic compounds.

U = Not detected.

UJ = The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.

VOCs = Volatile organic compounds.

WDO = Washington Department of Ecology.

Table 3-5

**LANDFILL GROUNDWATER SAMPLE SCREENING LEVEL SUMMARY
WENATCHEE, WASHINGTON**

Analyte	Range of Detection Limits	Range of Detected Concentrations*	Frequency of Detection	Frequency of Exceedence of Screening Level	Screening Level Source	Groundwater Cleanup Standards
VOCS (µg/L)						
1,2-Dichloroethane	10 - 100	21	1/3	1/3	MTCA Method B	0.481 ^b
Acetone	10 - 100	2 - 130	2/3	0/3	MTCA Method B	800 ^b
Benzene	10 - 100	2	1/3	0/3	MTCA Method A	5 ^a
Carbon Disulfide	10 - 100	2	1/3	0/3	MTCA Method B	800 ^b
Chlorobenzene	10 - 100	5	1/3	0/3	MTCA Method B	160 ^b
Methylene Chloride	10 - 100	420	1/3	1/3	MTCA Method A	5 ^a
Tetrachloroethene	10 - 100	1	1/3	0/3	MTCA Method A	5 ^a
Xylene (total)	10 - 100	2	1/3	0/3	MTCA Method A	20 ^a
SVOCs (µg/L)						
2-Methylnaphthalene	10	2	1/3	-	NA	NA
2-Methylphenol	10	5	1/3	0/3	MTCA Method B	800 ^b
4-Methylphenol	10	1 - 3	2/3	0/3	MTCA Method B	80 ^b
Bis(2-ethylhexyl)phthalate	10	6	1/3	0/3	MTCA Method B	6.25 ^b
Diethylphthalate	10	2 - 3	2/3	0/3	MTCA Method B	12,800 ^b
Naphthalene	10	1 - 3	2/3	0/3	MTCA Method B	320 ^b
Phenol	10	3	1/3	0/3	MTCA Method B	9,600 ^b
Pesticides/PCBs (µg/L)						
4,4'-DDD	0.098 - 0.11	0.041 - 1.3	2/3	1/3	MTCA Method B	0.365 ^b
4,4'-DDE	0.098 - 0.11	0.10 - 0.61	2/3	1/3	MTCA Method B	0.257 ^b
Aroclor 1260	0.98 - 1.1	0.41	1/3	1/3	MTCA Method A	0.1 ^a
Inorganics (µg/L)						
Antimony	3	6.8	1/3	0/3	EPA Region 9 PRG	15 ^c
Arsenic	3	7.1 - 45.6	3/3	3/3	MTCA Method A	5 ^a
Barium	0.7	621 - 1930	3/3	2/3	MTCA Method B	1,120 ^b
Beryllium	0.4	0.82 - 2	2/3	2/3	MTCA Method B	0.0203 ^b
Cadmium	12.6	1.1 - 5.2	3/3	1/3	MTCA Method A	5 ^a
Chromium	1	74.9 - 541	3/3	3/3	MTCA Method A	50 ^a
Cobalt	2.2	30.8 - 64.8	3/3	0/3	EPA Region 9 PRG	2,200 ^c
Copper	2.5	69.1 - 200	3/3	0/3	MTCA Method B	592 ^b
Lead	1.7	16.5 - 487	3/3	3/3	MTCA Method A	5 ^a
Manganese	0.6	1880 - 2470	3/3	2/3	MTCA Method B	2,240 ^b
Mercury	0.1	0.16 - 0.45	2/3	0/3	MTCA Method A	2 ^a
Nickel	2.5	73.3 - 363	3/3	1/3	MTCA Method B	320 ^b
Selenium	2.3	5.8 - 19.7	3/3	0/3	MTCA Method B	80 ^b
Silver	1.4	1.4 - 4.2	2/3	0/3	MTCA Method B	80 ^b
Vanadium	1.4	66.2 - 192	3/3	1/3	MTCA Method B	112 ^b
Zinc	2.4	140 - 2600	3/3	0/3	MTCA Method B	4,800 ^b

Key at end of the table.

Table 3-5 (CONTINUED)

**LANDFILL GROUNDWATER SAMPLE SCREENING LEVEL SUMMARY
WENATCHEE, WASHINGTON**

Analyte	Range of Detection Limits	Range of Detected Concentrations ^a	Frequency of Detection	Frequency of Exceedence of Screening Level	Screening Level Source	Groundwater Cleanup Standards
Dioxins/Furans (pg/L)						
1,2,3,4,6,7,8-HpCDF	1.7 - 8.4	32-134	1/3	NA	NA	NA
1,2,3,4,7,8-HxCDF	2.1 - 6.5	11-583	1/3	NA	NA	NA
OCDD	9.7 - 516	1037-870	1/3	NA	NA	NA
OCDF	3.4 - 12	122-027	1/3	NA	NA	NA
Total toxicity equivalency	-	1.6	1/1	1/1	MTCA Method B	0.583 ^b

^a Detected concentrations less than the associated detection limits are considered estimated quantities.

^b WDOE Method A cleanup level.

^c WDOE Method B cleanup level.

^d EPA, Region 9, PRG.

Key:

EPA = United States Environmental Protection Agency.
 MTCA = Model Toxics Control Act.
 µg/L = Micrograms per liter.
 pg/L = Picograms per liter.
 PRG = Preliminary remediation goal.

Table 3-6

**PUBLIC WORKS DEPARTMENT PROPERTY SUBSURFACE SOIL SAMPLE
ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON**

LOCATION ID	DEPTH	Residential Cleanup Standards	Industrial Cleanup Standards	LF04SB04 0 - 4 ft bgs	LF04SB12 8 - 12 ft bgs	LF05SB04 0 - 4 ft bgs	LF05SB12 8 - 12 ft bgs	LF06SB04 0 - 4 ft bgs	LF06SB12 8 - 12 ft bgs	LF14SS00 0 - 4 ft bgs	LF14SB08 8 - 12 ft bgs	LF06SB04B 0 - 4 ft bgs
VOCs (µg/kg)												
2-Butanone		6,900,000 ^d	27,000,000 ^d	11 U	11 U	2 J	11 U	11 U	9 J	11 U	10 U	NA
Acetone		8,000,000 ^b	350,000,000 ^c	11 U	11 U	11 U	11 U	34	51	11 U	10 U	NA
SVOCs (µg/kg)												
2-Methylnaphthalene		-	-	380 U	360 U	350 UJ	350 UJ	350 U	55 J	350 U	54 J	NA
4-Nitroaniline		-	-	950 U	900 U	890 UJ	880 UJ	890 U	940	890 U	860 U	NA
Acenaphthene		4,800,000 ^b	210,000,000 ^b	380 U	360 U	350 UJ	350 UJ	350 U	380 U	350 U	410	NA
Anthracene		24,000,000 ^b	105,000,000 ^b	380 U	360 U	350 UJ	350 UJ	350 U	380 U	350 U	1,500	NA
Benzo(a)anthracene		137 ^b	18,000 ^b	380 U	360 U	350 UJ	350 UJ	350 U	42 J	51 J	3,200	NA
Benzo(a)pyrene		137 ^b	18,000 ^c	380 U	360 U	350 UJ	350 UJ	350 U	380 U	93 J	2,200	NA
Benzo(b)fluoranthene		137 ^b	18,000 ^c	380 U	360 U	350 UJ	350 UJ	350 U	380 U	95 J	1,100	NA
Benzo(g,h,i)perylene		-	-	380 U	360 U	350 UJ	350 UJ	350 U	380 U	120 J	480	NA
Benzo(k)fluoranthene		137 ^b	18,000 ^c	380 U	360 U	350 UJ	350 UJ	350 U	380 U	350 U	1,200	NA
Bis(2-ethylhexyl)phthalate		71,400 ^b	9,370,000 ^c	380 U	360 U	5,200 J	320 J	54 J	380 U	580	39 J	NA
Carbazole		16,000,000 ^b	7,000,000 ^c	380 U	360 U	350 UJ	350 UJ	350 U	380 U	350 U	1,200	NA
Chrysene		137 ^b	18,000 ^c	380 U	360 U	350 UJ	350 UJ	350 U	61 J	59 J	3,200	NA
Di-n-butylphthalate		8,000,000 ^b	350,000,000 ^c	380 U	360 U	350 UJ	350 UJ	170 J	52 J	350 U	340 U	NA
Dibenzofuran		1,100,000 ^d	10,000,000 ^d	380 U	360 U	350 UJ	350 UJ	350 U	380 U	350 U	210 J	NA
Dibenz(a,h)anthracene		137 ^b	18,000 ^c	380 U	360 U	350 UJ	350 UJ	350 U	380 U	350 U	420	NA
Fluoranthene		3,200,000 ^b	140,000,000 ^c	380 U	360 U	350 UJ	350 UJ	350 U	68 J	140 J	6,400	NA
Fluorene		3,200,000 ^b	140,000 ^c	380 U	360 U	350 UJ	350 UJ	350 U	380 U	350 U	360	NA
Indeno(1,2,3-cd)pyrene		137 ^b	18,000 ^c	380 U	360 U	350 UJ	350 UJ	350 U	380 U	67 J	1,200	NA
Phenanthrene		-	-	380 U	360 U	350 UJ	350 UJ	350 U	60 J	68 J	5,600	NA
Pyrene		2,400,000 ^b	105,000,000 ^c	380 U	360 U	350 UJ	350 UJ	350 U	110 J	190 J	6,200	NA
Pesticides (µg/kg)												
4,4'-DDD		4,170 ^b	547,000 ^c	26	17	6.7	3.5 U	210	230	5.6	4.6	NA
4,4'-DDE		2,940 ^b	386,000 ^c	60	15	6.0	1.9 J	73	62	31	3.4 U	NA
4,4'-DDT		1,000 ^a	5,000 ^a	7.2	2.6 J	4.5	3.5 U	3.9 J	5.8 J	19	2.0 J	NA

Key is at the end of the table.

Table 3-6 (CONTINUED)

**PUBLIC WORKS DEPARTMENT PROPERTY SUBSURFACE SOIL SAMPLE
ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON**

LOCATION ID DEPTH	Residential		Industrial		LF04SB04		LF04SB12		LF05SB04		LF05SB12		LF06SB04		LF06SB12		LF14SS00		LF14SB08		LF06SB04B	
	Cleanup Standards	750,000 ^d	Cleanup Standards	200,000 ^a	28.7 J	5.0 J	8.2 J	105	3.4 J	2.9 J	15.9 J	18.8 J	17.4 J	4.2 J	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics (µg/kg)																						
Antimony	30,000 ^d																					
Arsenic	20 ^a																					
Barium	5,600 ^b																					
Beryllium	0.233 ^b																					
Chromium	100 ^a																					
Cobalt	3,300 ^d																					
Copper	2,960 ^b																					
Lead	250 ^a																					
Manganese	11,200 ^b																					
Mercury	1.0 ^a																					
Nickel	1,600 ^b																					
Selenium	400 ^b																					
Silver	400 ^b																					
Thallium	5.6 ^b																					
Vanadium	560 ^b																					
Zinc	24,000 ^b																					
Dioxins/Furans (pg/kg)																						
1,2,3,4,6,7,8-HpCDD	-																					
1,2,3,4,6,7,8-HpCDF	-																					
1,2,3,4,7,8-HxCDD	-																					
1,2,3,4,7,8-HxCDF	-																					
1,2,3,6,7,8-HxCDF	-																					
2,3,4,7,8-PeCDF	-																					
OCDD	-																					
OCDF	-																					
Total Toxicity Equivalency	6.67 ^b	875 ^c	0.159	0.128	1.833	1.014	2.034	0.154 U	1.022 J	1.282 J	1.282 J	1.282 J	1.282 J	1.282 J	1.282 J	1.282 J	1.282 J	1.282 J	1.282 J	1.282 J	1.282 J	1.282 J

Key is at the end of the table.

Table 3-7

PUBLIC WORKS DEPARTMENT PROPERTY
SUBSURFACE SOIL SAMPLE SCREENING LEVEL SUMMARY
WENATCHEE, WASHINGTON

Analyte	Range of Detection Limits	Range of Detected Concentrations*	Frequency of Detection	Frequency of Exceedence of Screening Level	Screening Level Source	Residential Cleanup Standards	Industrial Cleanup Standards
VOCs (µg/kg)							
2-Butanone	10 - 21	2-9	2/8	0/8	EPA Region 9 PRG	6,900,000 ^d	27,000,000 ^d
Acetone	10 - 150	34 - 51	2/8	0/8	MTCA Method B	8,000,000 ^b	350,000,000 ^e
SVOCs (µg/kg)							
2-Methylnaphthalene	350 - 720	54 - 55	2/8	NA	NA	NA	NA
4-Nitroaniline	350 - 720	940	1/8	NA	NA	NA	NA
Acenaphthene	350 - 720	410	1/8	0/8	MTCA Method B	4,800,000 ^b	210,000,000 ^b
Anthracene	350 - 720	1500	1/8	0/8	MTCA Method B	24,000,000 ^b	105,000,000 ^b
Benzo(a)anthracene	350 - 720	42 - 3200	3/8	1/8	MTCA Method B	137 ^b	18,000 ^b
Benzo(a)pyrene	350 - 720	93 - 2200	2/8	1/8	MTCA Method B	137 ^b	18,000 ^c
Benzo(b)fluoranthene	350 - 720	95 - 1100	2/8	1/8	MTCA Method B	137 ^b	18,000 ^c
Benzo(g,h,i)perylene	350 - 720	120 - 480	2/8	NA	NA	NA	NA
Benzo(k)fluoranthene	350 - 720	1200	1/8	0/8	MTCA Method B	137 ^b	18,000 ^c
Bis(2-ethylhexyl)phthalate	350 - 720	54 - 5200	5/8	0/8	MTCA Method B	71,400 ^b	9,370,000 ^c
Carbazole	350 - 720	1200	1/8	0/8	MTCA Method B	16,000,000 ^b	7,000,000 ^c
Chrysene	350 - 720	59 - 3200	3/8	1/8	MTCA Method B	137 ^b	18,000 ^c
Di-n-butylphthalate	350 - 720	52 - 170	2/8	0/8	MTCA Method B	8,000,000 ^b	350,000,000 ^c
Dibenzofuran	350 - 720	210	1/8	0/8	EPA Region 9 PRG	1,100,000 ^d	10,000,000 ^d
Dibenz(a,h)anthracene	350 - 720	420	1/8	1/8	MTCA Method B	137 ^b	18,000 ^c
Fluoranthene	350 - 720	68 - 6400	3/8	0/8	MTCA Method B	3,200,000 ^b	140,000,000 ^c
Fluorene	350 - 720	360	1/8	0/8	MTCA Method B	3,200,000 ^b	140,000 ^c
Indeno(1,2,3-cd)pyrene	350 - 720	67 - 1200	2/8	1/8	MTCA Method B	137 ^b	18,000 ^c
Phenanthrene	350 - 720	60 - 5600	3/8	NA	NA	NA	NA
Pyrene	350 - 720	110 - 6200	3/8	0/8	MTCA Method B	2,400,000 ^b	105,000,000 ^c

Key at end of table.

Table 3-7 (CONTINUED)

Table 3-7 (CONTINUED)									
PUBLIC WORKS DEPARTMENT PROPERTY SUBSURFACE SOIL SAMPLE SCREENING LEVEL SUMMARY WENATCHEE, WASHINGTON									
Analyte	Range of Detection Limits	Range of Detected Concentrations*	Frequency of Detection	Frequency of Exceedence of Screening Level	Screening Level Source	Residential Cleanup Standards	Industrial Cleanup Standards		
Pesticides/PCBs (µg/kg)									
4,4'-DDD	1.8 - 9.6	4.6 - 230	7/8	0/8	MTCA Method B	4,170 ^b	547,000 ^c		
4,4'-DDE ^c	1.8 - 9.6	1.9 - 73	7/8	0/8	MTCA Method B	2,940 ^b	386,000 ^c		
4,4'-DDT	1.8 - 9.6	2.0 - 19	7/8	0/8	MTCA Method A	1,000 ^a	25,000 ^b		
Inorganics (mg/kg)									
Antimony	0.60 - 0.88				EPA Region 9 PRG	30,000 ^d	750,000 ^d		
Arsenic	0.66 - 0.89	2.9 - 28.7	8/8	0/8	MTCA Method A	20 ^a	200 ^a		
Barium	0.14 - 0.21	78.5 - 149	8/8	0/8	MTCA Method B	5,600 ^b	245,000 ^c		
Beryllium	0.08 - 0.21	0.25 - 0.36	8/8	8/8	MTCA Method B	0.233 ^b	30.5 ^c		
Chromium	0.20 - 0.30	15.2 - 31.6	8/8	0/8	MTCA Method A	100 ^a	500 ^a		
Cobalt	0.44 - 0.67	6.2 - 9.2	8/8	0/8	EPA Region 9 PRG	3,300 ^d	29,000 ^d		
Copper	0.50 - 0.76	13.8 - 30.2	8/8	0/8	MTCA Method B	2,960 ^b	130,000 ^c		
Lead	0.34 - 0.52	8.9 - 162	8/8	0/8	MTCA Method A	250 ^a	1,000 ^a		
Manganese	0.12 - 0.18	333 - 410	8/8	0/8	MTCA Method B	11,200 ^b	490,000 ^c		
Mercury	0.05 - 0.06	0.05 - 0.43	3/8	0/8	MTCA Method A	1.0 ^a	1.0 ^a		
Nickel	0.50 - 0.76	11.7 - 23.3	8/8	0/8	MTCA Method B	1,600 ^b	70,000 ^c		
Selenium	1.1 - 2.7	1.5 - 1.9	2/8	0/8	MTCA Method B	400 ^b	17,500 ^c		
Silver	0.28 - 0.42	0.70 - 0.86	8/8	0/8	MTCA Method B	400 ^b	17,500 ^b		
Thallium	0.65 - 0.88	0.72 - 1.4	8/8	0/8	MTCA Method B	5.6 ^b	245 ^c		
Vanadium	0.28 - 0.42	33.7 - 47.7	8/8	0/8	MTCA Method B	560 ^b	24,500 ^c		
Zinc	0.48 - 0.73	53.1 - 90.3	8/8	0/8	MTCA Method B	24,000 ^b	1,050,000 ^c		

Key at end of table.

Table 3-7 (CONTINUED)

**PUBLIC WORKS DEPARTMENT PROPERTY
SUBSURFACE SOIL SAMPLE SCREENING LEVEL SUMMARY
WENATCHEE, WASHINGTON**

Analyte	Range of Detection Limits	Range of Detected Concentrations*	Frequency of Detection	Frequency of Exceedence of Screening Level	Screening Level Source	Residential Cleanup Standards	Industrial Cleanup Standards
Dioxins/Furans (ng/kg)							
1,2,3,4,6,7,8-HpCDD	0.32 - 0.51	1.014 - 5.513	4/5	NA	NA	NA	NA
1,2,3,4,6,7,8-HpCDF	0.09 - 2.4	0.627 - 2.034	4/5	NA	NA	NA	NA
1,2,3,4,7,8-HxCDD	0.14 - 1.2	0.567	1/5	NA	NA	NA	NA
1,2,3,4,7,8-HxCDF	0.09 - 0.64	0.997 - 13.630	4/5	NA	NA	NA	NA
1,2,3,6,7,8-HxCDF	0.07 - 1.1	0.902	1/5	NA	NA	NA	NA
2,3,4,7,8-PeCDF	0.08 - 4.8	0.359	1/5	NA	NA	NA	NA
OCDD	3.7 - 15.9	1.293 - 49.865	3/5	NA	NA	NA	NA
OCDF	0.16 - 12.0	0.925 - 4.353	4/5	NA	NA	NA	NA

* Detected concentrations less than the associated detection limits are considered estimated quantities

a WDOE Method A cleanup level.

b WDOE Method B cleanup level.

c WDOE Method C cleanup level.

d EPA, Region 9, PRG

Key:

EPA = United States Environmental Protection Agency.

µg/kg = Micrograms per kilogram.

mg/kg = Milligrams per kilogram.

MTCA = Model Toxics Control Act.

NA = Not analyzed.

ng/kg = Nanograms per kilogram.

PCBs = Polychlorinated biphenyls.

PRG = Preliminary remediation goal.

SVOCs = Semivolatile organic compounds.

VOCs = Volatile organic compounds.

WDOE = Washington Department of Ecology.

TABLE 3-8

**PUBLIC WORKS DEPARTMENT PROPERTY
GROUNDWATER SAMPLE
ANALYTICAL RESULTS SUMMARY
WENATCHEE, WASHINGTON**

	Groundwater		
LOCATION ID	Cleanup	LF04GW24	LF14GW24
DEPTH	Standards	24 ft bgs	24 ft bgs
VOCs (µg/L)			
2-Butanone	4,800 ^b	3 J	10 U
Acetone	800 ^b	18	10 U
Benzene	5 ^a	1 J	10 U
Methylene Chloride	5 ^a	23	10 U
Toluene	40 ^a	2 J	10 U
Pesticides/PCBs (µg/L)			
4,4'-DDD	0.365 ^b	0.040 J	0.11 U
4,4'-DDE	0.257 ^b	0.036 J	0.11 U
Aroclor 1260	0.1 ^a	1.0 U	0.37 J
Inorganics (µg/L)			
Arsenic	5 ^a	28.4	18.3
Barium	1,120 ^b	1,390 J	1,930 J
Beryllium	0.0203 ^b	2.8 J	2.8 J
Cadmium	5 ^a	2.1 J	2.0 J
Chromium	50 ^a	762	234
Cobalt	2,200 ^c	83.7	90.0
Copper	592 ^b	324	238
Lead	5 ^a	86.3 J	45.1 J
Manganese	2,240 ^b	5,190 J	6,240 J
Mercury	2 ^a	0.24	0.16
Nickel	320 ^b	565	283
Selenium	80 ^b	16.6 J	7.5 J
Silver	80 ^b	4.6 J	3.3 J
Vanadium	112 ^b	222	155
Zinc	4,800 ^b	1,160 J	333 J
Dioxins/Furans (pg/L)			
1,2,3,4,6,7,8-HpCDF		4.542 J	2.912 U
OCDF		16.634	3.355 U
Total Toxicity Equivalent	0.583 ^b	0.0062	0.000

Key at end of table.

^a WDOE Method A cleanup level.

^b WDOE Method B cleanup level.

Note: Bold type indicates concentrations above sample quantitation limits or detection limits.
Underline indicates concentrations above one or more comparison standards.

Key:

- CLP EPA, Region 9, PRG (Tap Water).
- bgs Below ground surface.
- CLP Contract Laboratory Program.
- EPA United States Environmental Protection Agency.
- ft Feet.
- ID Identification.
- J The analyte was positively identified. The associated numerical value is an estimate.
- NA Not analyzed.
- pg/L Picograms per liter.
- PCBs Polychlorinated biphenyls.
- PRG Preliminary remediation goal.
- SVOCs Semivolatile organic compounds.
- µg/L Micrograms per liter.
- U Not detected.
- VOCs Volatile organic compounds.
- WDOE Washington Department of Ecology.

Key:	
CLP	EPA, Region 9, PRG (Tap Water).
bgs	Below ground surface.
CLP	Contract Laboratory Program.
EPA	United States Environmental Protection Agency.
ft	Feet.
ID	Identification.
J	The analyte was positively identified. The associated numerical value is an estimate.
NA	Not analyzed.
pg/L	Picograms per liter.
PCBs	Polychlorinated biphenyls.
PRG	Preliminary remediation goal.
SVOCs	Semivolatile organic compounds.
µg/L	Micrograms per liter.
U	Not detected.
VOCs	Volatile organic compounds.
WDOE	Washington Department of Ecology.

Table 3-9

**PUBLIC WORKS DEPARTMENT PROPERTY
GROUNDWATER SAMPLE SCREENING LEVEL SUMMARY
WENATCHEE, WASHINGTON**

Analyte	Range of Detection Limits	Range of Detected Concentrations	Frequency of Detection	Frequency of Exceedence of Screening Level	Screening Level Source	Groundwater Cleanup Standards
VOCs (µg/L)						
2-Butanone	10 - 100	3	1 / 2	0 / 2	MTCA Method B	4,800 ^b
Acetone	10 - 100	18	1 / 2	0 / 2	MTCA Method B	800 ^b
Benzene	10 - 100	1	1 / 2	0 / 2	MTCA Method A	5 ^a
Methylene Chloride	10 - 100	23	1 / 2	1 / 2	MTCA Method A	5 ^a
Toluene	10 - 100	2	1 / 2	0 / 2	MTCA Method A	40 ^a
Pesticides/PCBs (µg/L)						
4,4'-DDD	0.098 - 0.11	0.040	1 / 2	0 / 2	MTCA Method B	0.365 ^b
4,4'-DDE	0.098 - 0.11	0.036	1 / 2	0 / 2	MTCA Method B	0.257 ^b
Aroclor 1260	0.98 - 1.1	0.37	1 / 2	1 / 2	MTCA Method A	0.1 ^a
Inorganics (µg/L)						
Arsenic	3	18.3 - 28.4	2 / 2	2 / 2	MTCA Method A	5 ^a
Barium	0.7	1390 - 1930	2 / 2	2 / 2	MTCA Method B	1,120 ^b
Beryllium	0.4	2.8	2 / 2	2 / 2	MTCA Method B	0.0203 ^b
Cadmium	12.6	2.0 - 2.1	2 / 2	0 / 2	MTCA Method A	5 ^a
Chromium	1	234 - 762	2 / 2	2 / 2	MTCA Method A	50 ^a
Cobalt	2.2	83.7 - 90.0	2 / 2	0 / 2	EPA Region 9 PRG	2,200 ^c
Copper	2.5	238 - 324	2 / 2	0 / 2	MTCA Method B	592 ^b
Lead	1.7	45.1 - 86.3	2 / 2	2 / 2	MTCA Method A	5 ^a
Manganese	0.6	5190 - 6240	2 / 2	2 / 2	MTCA Method B	2,240 ^b
Mercury	0.1	0.16 - 0.24	2 / 2	0 / 2	MTCA Method A	2 ^a
Nickel	2.5	283 - 565	2 / 2	1 / 2	MTCA Method B	320 ^b
Selenium	2.3	7.5 - 16.6	2 / 2	0 / 2	MTCA Method B	80 ^b
Silver	1.4	3.3 - 4.6	2 / 2	0 / 2	MTCA Method B	80 ^b
Vanadium	1.4	155 - 222	2 / 2	2 / 2	MTCA Method B	112 ^b
Zinc	2.4	333 - 1160	2 / 2	0 / 2	MTCA Method B	4,800 ^b
Dioxins/Furans (pg/L)						
1,2,3,4,6,7,8-HpCDF	1.7 - 8.4	4.542	1 / 2	NA	NA	NA
OCDF	3.4 - 12	16.634	1 / 2	NA	NA	NA

* Detected concentrations less than the associated detection limits are considered estimated quantities.

^a WDOE Method A cleanup level.

^b WDOE Method B cleanup level.

^c EPA, Region 9, PRG.

Key:

EPA = United States Environmental Protection Agency.

MTCA = Model Toxics Control Act.

µg/L = Micrograms per liter.

pg/L = Picograms per liter.

PCBs = Polychlorinated biphenyls.

PRG = Preliminary remediation goal.







VOCs = Volatile organic compounds.

Figure 3-1

Sample Location Map

Wenatchee, Washington

Legend

-  PWD Property
-  Sample Location
-  Building
-  Approximate Boundary of Former Landfill
-  Railroad
-  Storm Drain



Feet



ecology and environment, inc.
 Environmental Scientists in the Environment
 10000 1st Avenue, Suite 100
 Wenatchee, WA 98801

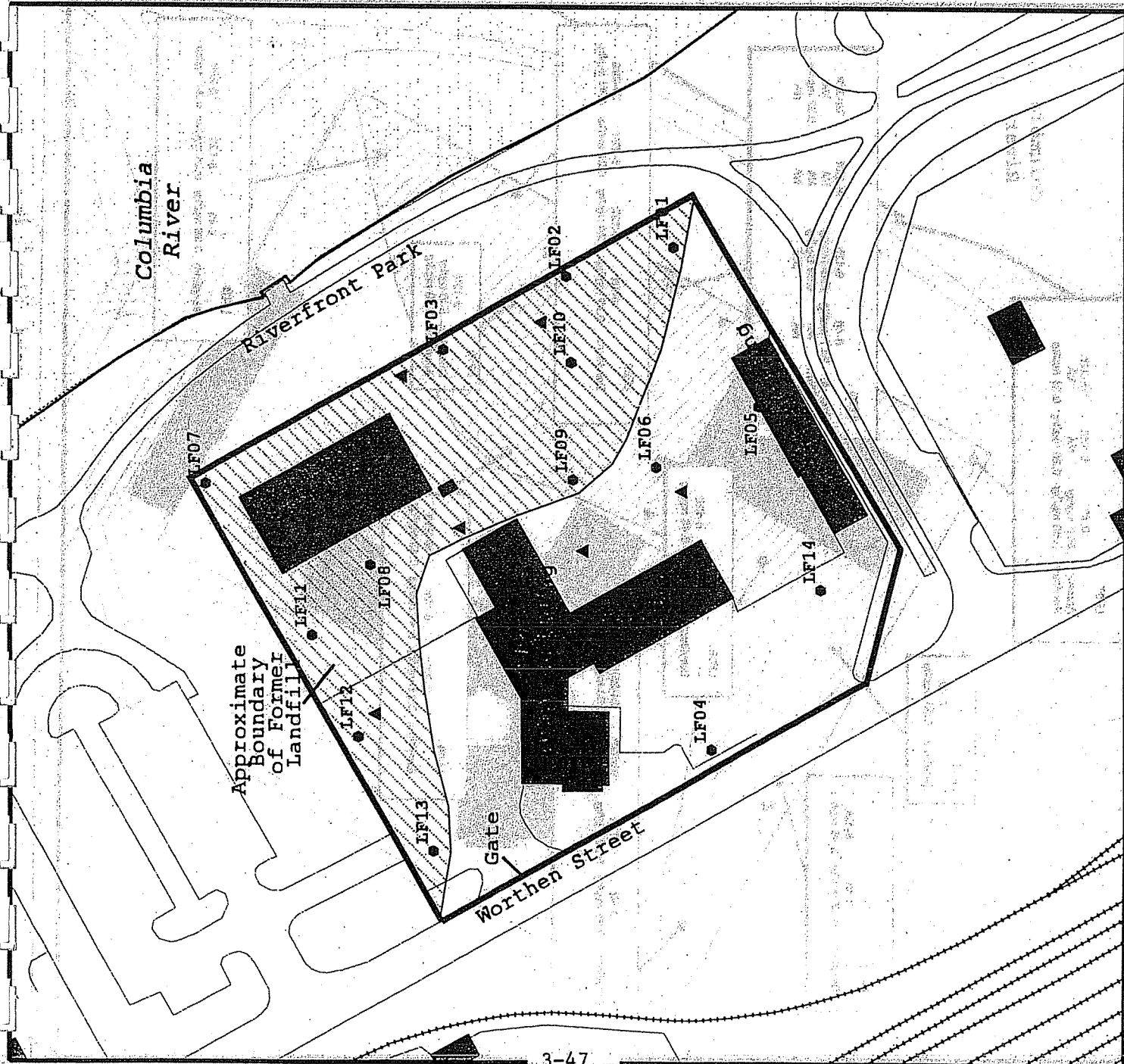


Figure 3-2

Landfill Subsurface Soil Sample Screening Level Exceedance Map Wenatchee, Washington

Legend

- PWD Property
- Building
- Approximate Boundary of Former Landfill
- Storm Drain

Sample Location

Analyte Concentration
Analyte Concentration

All Depths are in feet below ground surface

mg/kg = milligrams per kilogram

ug/kg = micrograms per kilogram

NA = Not Applicable

N



100 0 100
Meters Feet



ecology and environment, Inc.
International Specialists in Environmental
Science, Technology

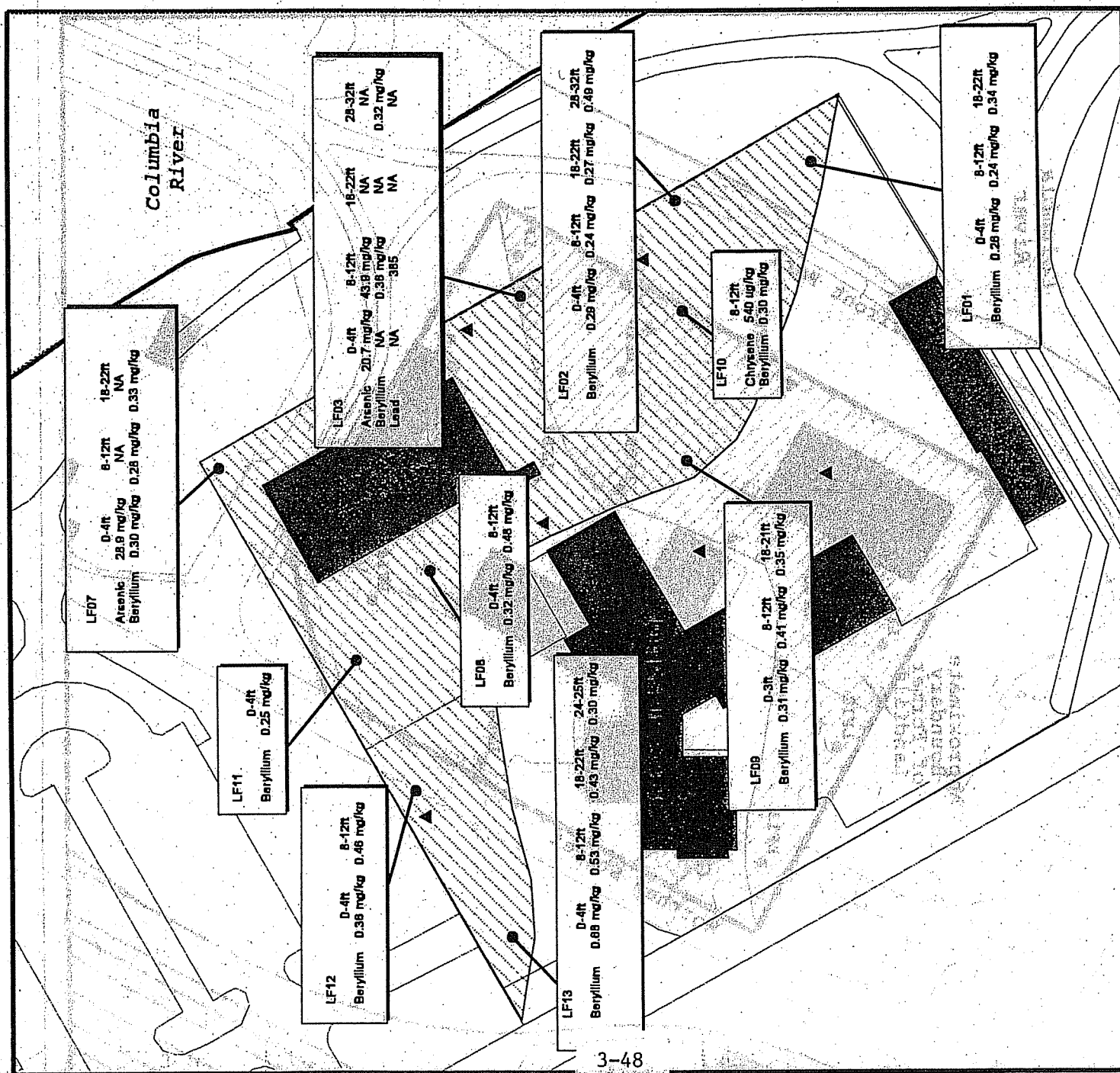


Figure 3-3

Landfill Groundwater Sample Screening Level Exceedance Map Wenatchee, Washington

Legend

- PWD Property
- Building
- Approximate Boundary of Former Landfill

Sample Location

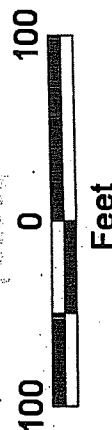
Sample Depth
Analyte Concentration
Analyte Concentration

Storm Drain

All Depths are in feet below ground surface

ug/L = micrograms per Liter

pg/L = picograms per Liter



ecology and environment, Inc.
Instruments, Software, and Environmental
Solutions

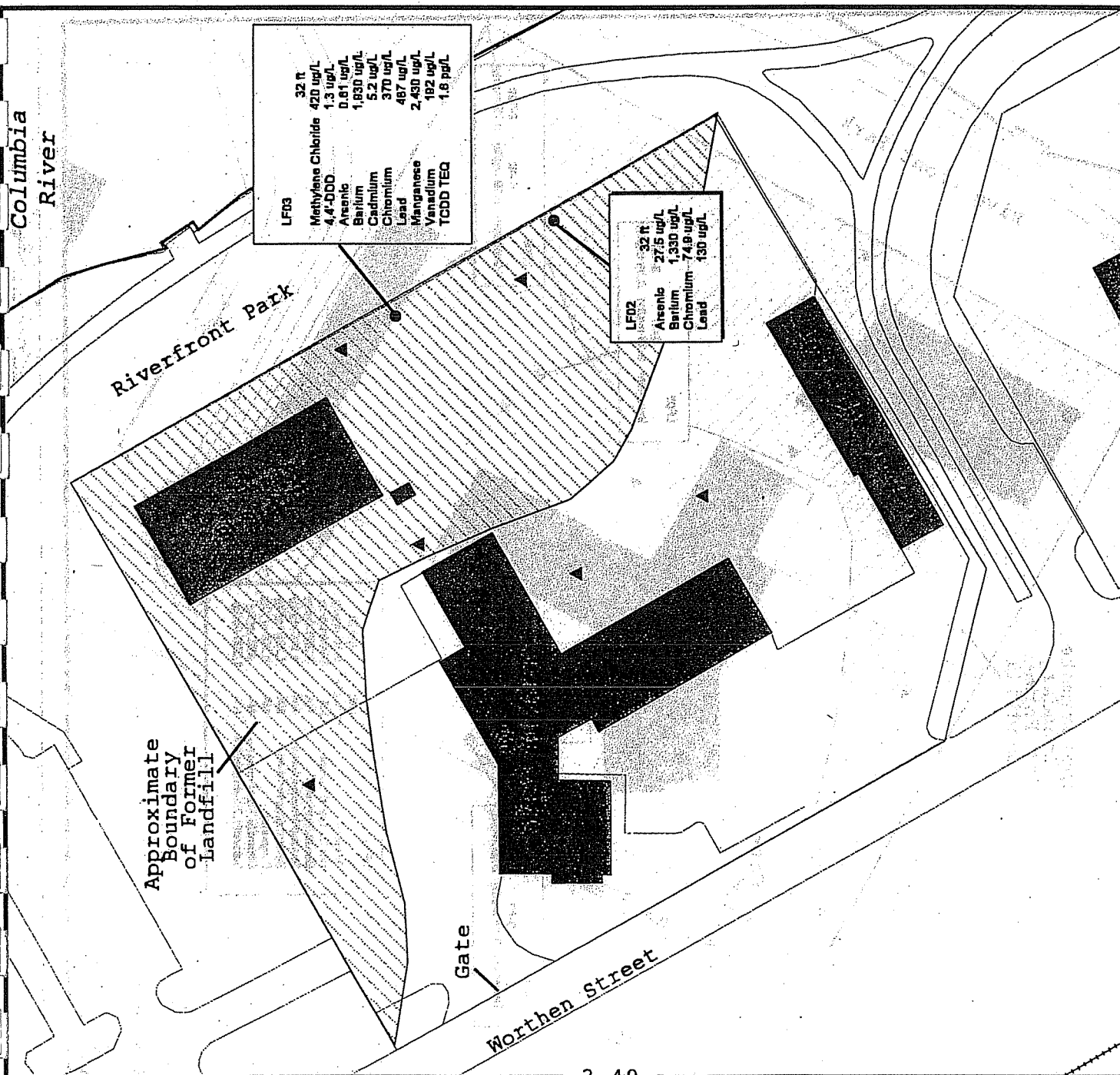


Figure 3-4

PWD Property Subsurface Soil Sample Screening Level Exceedance Map Wenatchee, Washington

Legend

- PWD Property
 - Building
 - Approximate Boundary of Former Landfill
 - Sample Location
 - Sample Depth
 - Analyte Concentration
 - Sample Depth Concentration
 - Storm Drain
- All Depths are in feet below ground surface
- mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram



Feet



ecology and environment, Inc.
Environmental Sciences & Environmental
Solutions, Inc.

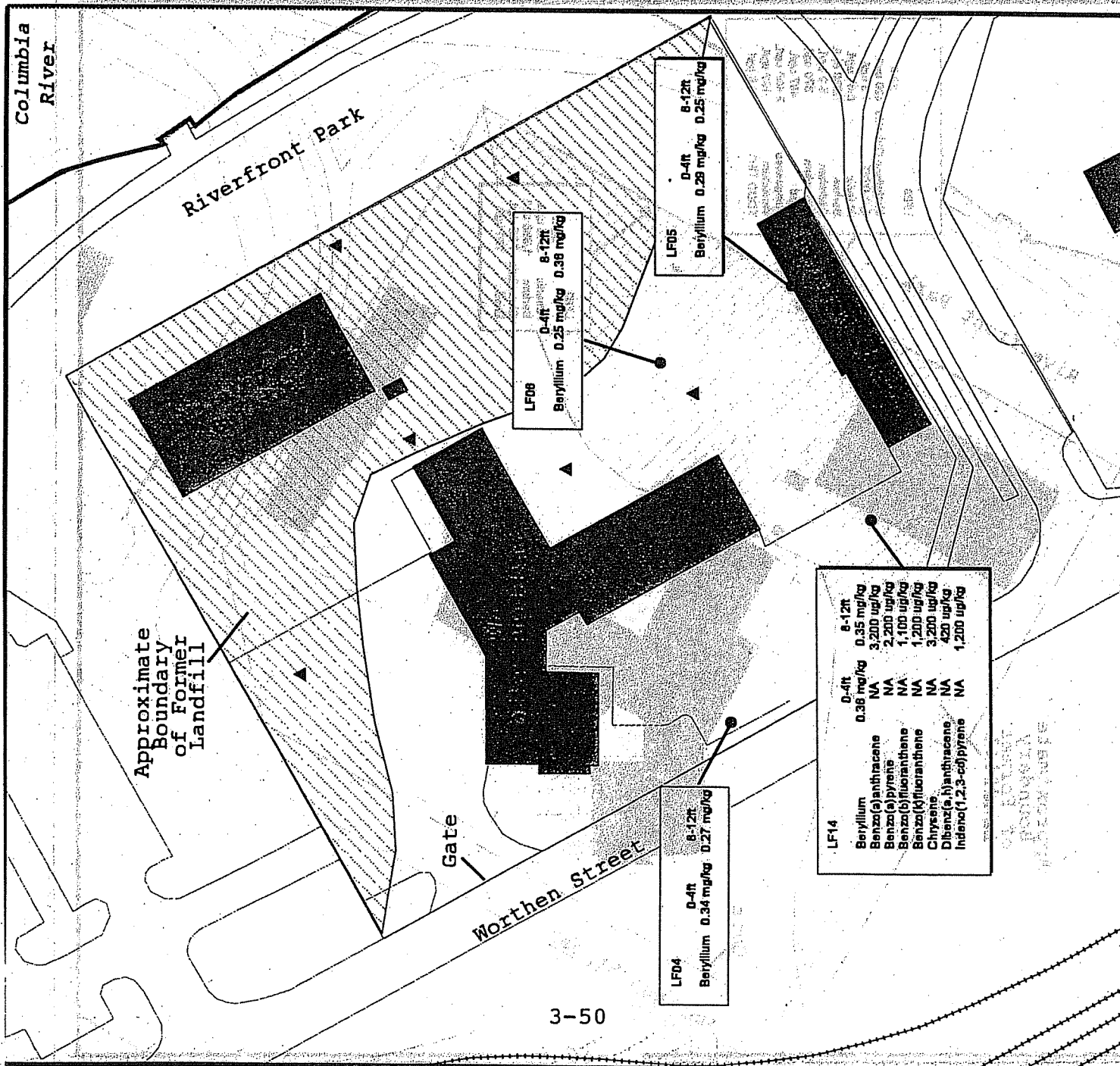


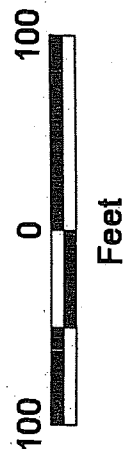
Figure 3-5

PWD Property Groundwater Sample Screening Level Exceedance Map Wenatchee, Washington

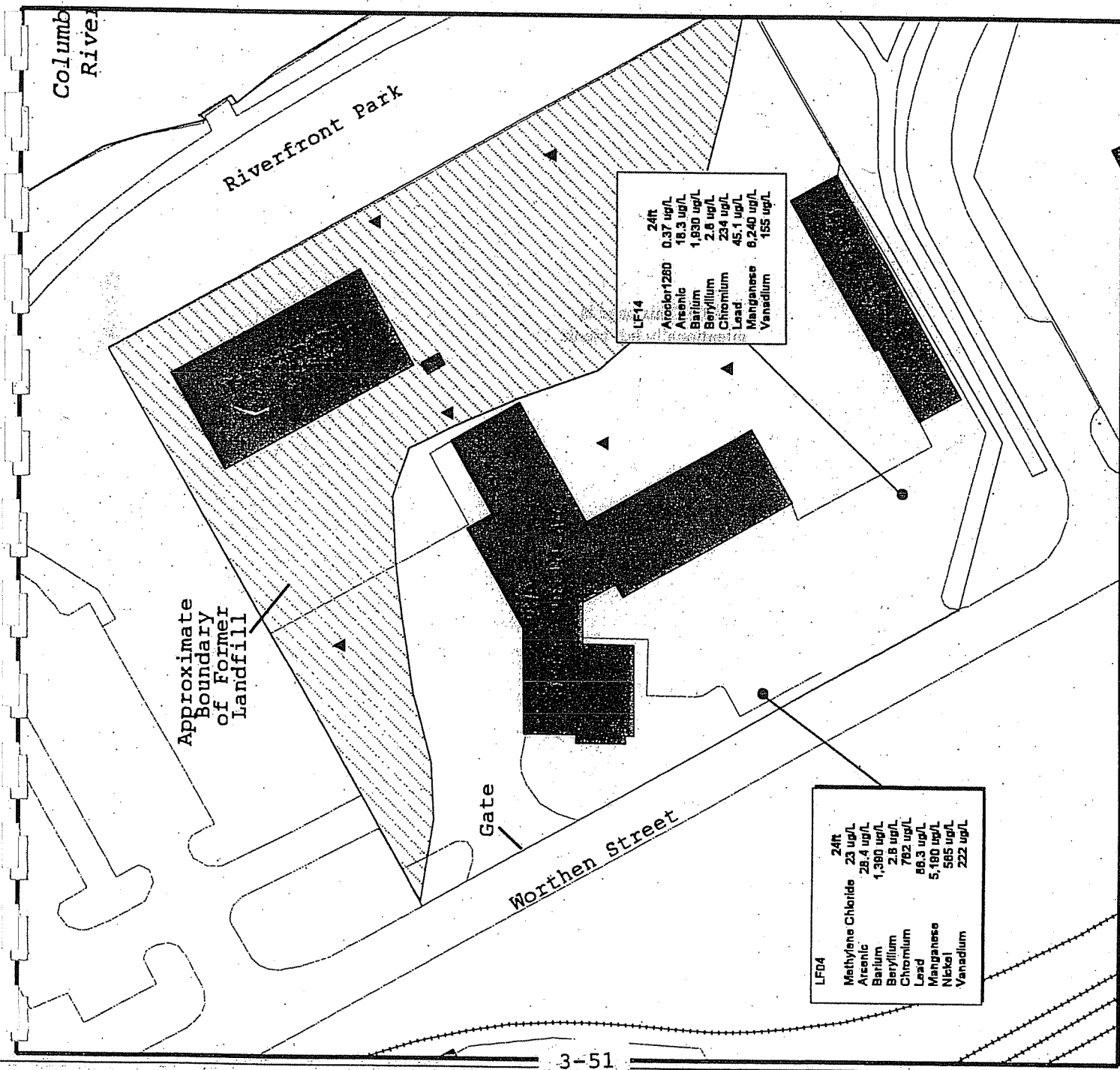
Legend

- PWD Property
- Building
- Approximate Boundary of Former Landfill
- Sample Location
- Sample Depth
- Analyte Concentration
- Analyte Concentration
- Storm Drain

All Depths are in feet below ground surface
ug/L = micrograms per Liter



ecology and environment, inc.
Innovative Solutions in the Environment
Snohomish, Washington



WATER (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

WATER (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

SHORE (OWN)

Note: This page is intentionally left blank.

4. CLEANUP OPTIONS AND COSTS

The City is interested in potentially selling the PWD property to developers for potential use as a business park or hotel location. The following information is presented based on current site conditions. As changes occur at the site, the information presented in this report should be modified as necessary to support appropriate exposure scenarios.

For the purposes of this report, conclusions have been drawn with respect to potential source areas under the assumption that the property will be developed as a business park or hotel park; therefore applicable MTCA and EPA Region 9 PRG industrial standards were considered with respect to soil contamination. Washington State natural background metals concentrations were also used to evaluate site conditions.

The cost estimate below is based on the recommended action and assumptions outlined in the following sections and were primarily obtained from *Environmental Remediation Cost Data - Unit Price*, 6th Annual Edition, R. S. Means and Company and Talisman Partners, Ltd. (Means 2000a), and *Site Work and Landscape Cost Data*, 19th Annual Edition, R. S. Means and Company (Means 2000b). The quantities assumed below are conservative; costs may be less than estimated based on the actual conditions or if certain recommended activities are determined unnecessary. Recommended options at the PWD property include: 1) continued use of the property and buildings as they currently exist; and 2) soil excavation and subsequent backfill in the landfill area. The PWD property can be operated as a business park or hotel with no cleanup actions performed. Human contact with the subsurface soils is prevented by the pavement covering the property. WDOE MTCA industrial standards apply to this use; none of the industrial standards were exceeded in samples collected during the TBA. A discussion of the current subsurface structural integrity at the site relating to future redevelopment is beyond the scope of this TBA, however information relating to excavation and backfilling is discussed below. This no-action alternative will be retained for further evaluation to serve as a baseline against which the cleanup alternative can be compared. Excavation and/or backfilling should be coordinated during the same field effort to reduce mobilization and demobilization charges and to expedite the work. Appendix E provides a detailed cost summary for the proposed cleanup option.

4.1 LANDFILL EXCAVATION AND BACKFILL

The excavation of soil down to native material in the landfill (estimated to be 30 feet bgs throughout the landfill for this TBA) is recommended if future development occurs on that portion of the PWD property. This recommendation is made because building or parking lot construction would likely require the use of structural fill. Based on the contaminants and concentrations found during the TBA, it is believed that the excavated landfill material could be disposed of as non-hazardous waste. In order for the materials to be classified as a hazardous waste, they must meet the criteria outlined in 40 Code of Federal Regulations (CFR) Part 261. A solid waste exhibits the characteristic of toxicity if, using the toxicity characteristic leaching procedure (TCLP; Test Method 1311 in Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods, EPA Publication SW-846), the representative sample of the waste contains any of the contaminants listed in Table 1 of 40 CFR Part 261.24 at a concentration equal to or greater than the respective value given in that table. Although the TCLP was not performed on any of the samples, a correlation can be made between the expected TCLP concentrations and the actual total contaminant concentration detected by dividing the total concentration by 20 to obtain the approximate TCLP concentration. Table 1 in 40 CFR Part 261.24 lists maximum allowable TCLP concentrations; none of the TBA samples had analytes that appeared to approximate TCLP concentration limits. Due to the potential for unknown materials to be contained in the excavated soil/landfill material, treatment and on-site reuse of the excavated material is not recommended. The START estimates the cost of disposal of non-hazardous waste to be \$50 per ton. Detailed cost information per unit of work is provided in Appendix E. Approximately 70 percent of the estimated \$7,412,848 for this cleanup alternative are allocated to disposal of the excavated materials; costs for this portion of the cleanup may be significantly lower if disposal through the local municipal landfill is coordinated with other City departments. For the purposes of this option, all of the landfill material is excavated to the boundaries of the PWD property and is backfilled with structural fill material (e.g., crushed rock) because most construction activities would likely require the use of structural fill. Any worker exposures to contaminated soils during excavation or backfilling should not result in adverse health effects because contaminant levels were less than Method C (industrial) cleanup levels.

5. CONCLUSIONS AND RECOMMENDATIONS

Thirty-three subsurface soil samples were collected from the Historical Landfill area and eight subsurface soil samples were collected from the non-Landfill area. Screening levels were exceeded in 26 Landfill area samples and at all eight non-Landfill locations. Each of the subsurface soil sample screening level exceedances were greater than the applicable residential standards but were less than the applicable industrial standards. Because the site is likely to be developed for commercial purposes in the future and because the contamination is present below the asphalt paving, additional evaluation is not warranted at this time. However, if future development results in transport of subsurface contamination to the surface and if the land use changes, additional evaluation should be performed to ensure that contamination does not pose a health risk under new land uses.

Three groundwater samples were collected from the Historical Landfill area and two groundwater samples were collected from the non-Landfill area. Screening levels were exceeded at all five groundwater sample locations. Each of the groundwater sample screening level exceedances were greater than MTCA Method A or B residential levels. These exceedances may not be significant if groundwater does not represent an exposure medium for current or future receptors. Groundwater underlying the site is not currently used as a domestic water supply and does not appear to be hydrologically connected to an aquifer used for drinking water. Therefore, additional consideration of groundwater contamination may not be required at this time.

The City is interested in potentially selling the current PWD property to outside interests for development into business park or hotel. Several analytes were detected at concentrations greater than WDOE MTCA or EPA Region 9 PRG levels at various locations and depths throughout the PWD property, however, due to pavement covering the Historical Landfill area preventing a pathway for human exposure, no further action at the property is recommended for continued use of the facility in its current state. If improvements are planned for the Historical Landfill area of the PWD property, excavation and disposal of the landfill materials as non-hazardous materials is recommended, followed by the backfilling with structural fill material.

As listed in Section 4 and Appendix E, options for future use of the property vary from \$0 to over \$7,000,000, with several cost and cleanup options available between these amounts. The goal of

each option is to minimize human exposure to potentially contaminated soils while maximizing the use of the PWD property as a commercial development.

4. CURRENT STATUS AND RECOMMENDATIONS

Thirty-three subsurface soil samples were collected from the historical landfill area and eight subsurface soil samples were collected from the non-landfill area. Screening levels were exceeded in 30 landfill area samples and in all eight non-landfill locations. Each of the subsurface soil sample screening level exceedances is significantly greater than the applicable residential standards but were less than the applicable industrial standards. Because the site is likely to be developed for commercial purposes in the future and because the contamination is present below the existing ground surface, additional evaluation is not warranted at this time. However, if future development results in transport of subsurface contamination to the surface and if the land use changes, additional evaluation should be performed to ensure that contamination does not pose a health risk under new land use.

Three groundwater samples were collected from the historical landfill area and two groundwater samples were collected from the non-landfill area. Screening levels were exceeded in all five groundwater sample locations. Each of the groundwater sample screening level exceedances were greater than MTCA Method A or B residential levels. These exceedances may not be significant if groundwater does not represent an exposure medium for current or future receptors. Groundwater underlying the site is not currently used as a domestic water supply and does not appear to be hydrologically connected to an aquifer used for drinking water. Therefore, additional consideration of groundwater contamination may not be required at this time.

The City is interested in potentially selling the current PWD property to outside interests for development into business park or hotel. Several analyses were conducted in concentrations greater than WFOE MTCA or EPA Region 9 Risk levels at various locations and depths throughout the PWD property, however, due to placement occurring the historical landfill area providing a pathway for human exposure, no further action at the property is recommended for potential use of the facility in its current state. If improvements are planned for the historical landfill area of the PWD property, excavation and disposal of the landfill materials as non-hazardous materials is recommended, followed by the backfilling with structural fill material.

As listed in Section 4 and Appendix B, options for future use of the property vary from SO to over 25,000 sq ft, with several not and design of some existing between these numbers. The goal of

6. REFERENCES

- Curry, Dan, October 11, 1999, personal communication, Water Resource Manager, City of Wenatchee Water Department, telephone conversation with Charlie Gregory, Ecology and Environment, Inc., Seattle, Washington.
- Ecology and Environment, Inc. (E & E), 1999, *Wenatchee Landfill and Orchard Sampling and Quality Assurance Plan*, Technical Direction Document (TDD) No. 98-11-0007, Seattle, Washington.
- United States Environmental Protection Agency (EPA), 1999a, Geographic Information Query System, City of Wenatchee Former Landfill Site, Chelan County, Washington, website <http://www.epa.gov/r10earth/siteinfo.html>.
- _____, October 1, 1999b, Region 9 Preliminary Remediation Goals (PRGs), prepared by Stanford J. Smucker, Ph.D., San Francisco, California.
- _____, 1996a, *EPA Region 10 SOP for the Validation of Polychlorinated Dibenzo-dioxin (PCDD) and Polychlorinated Dibenzo-furan (PCDF) Data*.
- _____, October 1996b, *Drinking Water Regulations and Health Advisories*, EPA-822-B-96-0002.
- _____, February 1996c, Region 10 Supplemental Risk Assessment Guidance for Superfund, Office of Environmental Assessment, Risk Evaluation Unit, Seattle, Washington.
- _____, February 1994a, *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*.
- _____, February 1994c, *Region 10 Supplemental Risk Assessment Guidance for Superfund*, Office of Environmental Assessment, Risk Evaluation Unit, Seattle, Washington.
- _____, February 1994b, *Contract Laboratory Program National Functional Guidelines for Organic Data Review*.
- _____, September 1993, *Data Quality Objectives Process for Superfund, Interim Final Guidance*, EPA 540-R-93-071.
- _____, 1991a, *EPA Contract Laboratory Program Statement of Work for Inorganic Analyses*.
- _____, 1991b, *EPA Contract Laboratory Program Statement of Work for Organic Analyses*.
- _____, 1981, Notification of Hazardous Waste Site - Worthen Street, Wenatchee, Washington.
- Erickson, Scott, October 11, 1999, personal communication, Customer Service and Policy Supervisor, Chelan County Public Utilities District, telephone conversation with Charlie Gregory, Ecology and Environment, Inc., Seattle, Washington.
- Stalheim, David, March 22, 1999, personal communication, Director, City of Wenatchee Department of Community Development, interview with Mark Woodke, Ecology and Environment, Inc., Seattle, Washington.

United States Geological Survey (USGS), 1984, *Element Concentrations in Soils and Other Surficial Material of the Conterminous United States*, Paper 1270.

_____, 1966, Wenatchee, Washington, 7.5 Minute Series topographic map, Photorevised 1987.

Walker, Gary, October 12, 1999, Director of Engineering and Operations for Water and Wastewater, Chelan County Public Utilities District Water System, telephone conversation with Charlie Gregory, Ecology and Environment, Inc., Seattle, Washington.

Washington Department of Ecology (WDOE), January 26, 1996, Model Toxics Control Act, 173-340 Washington Administrative Code.

_____, October 1994, Natural Background Soil Metals Concentrations in Washington State, Toxics Cleanup Program, Department of Ecology, Publication #94-115, Olympia, Washington.

_____, 1985, Potential Hazardous Waste Site Preliminary Assessment for Site Number D980639678, Chelan County Worthen Street Landfill, Wenatchee Washington.

Western Regional Climate Center (WRCC), 1999, *Monthly Climate Summary for November 17, 1999, through December 31, 1998 for Wenatchee, Washington*,
<http://www.wrcc.dri.edu/cgi-bin/cliRECTM.pl?wawent>.

Woodke, Mark, March 22, 1999, field logbook for the Wenatchee brownfields sites, Ecology and Environment, Inc., Seattle, Washington.

APPENDIX A

PHOTOGRAPHIC DOCUMENTATION

PHOTOGRAPH IDENTIFICATION SHEET

Camera Serial #: Disposable Camera

TDD #: 98-11-0007

Lens Type: 35 mm

Site Name: Wenatchee Landfill Brownfields

Photo Number	Date	Time	Taken By	Description
1-1	6/29/99	0925	SG	Sample LF01SB04 core; facing South
1-2	6/29/99	0930	SG	Sample LF01SB04 (sand and gravel); facing South
1-3	6/29/99	0955	SG	Sample LF01SB12 core (brick and wood material); facing South
1-4	6/29/99	1000	SG	Sample LF01SB12; facing South
1-5	6/29/99	1030	SG	Sample LF01SB22 core; facing South
1-6	6/29/99	1030	SG	Sample location LF01; facing West
1-7	6/29/99	1110	SG	Sample location LF02; facing West-Southwest
1-8	6/29/99	1115	SG	Sample LF02SB04 core; facing East
1-9	6/29/99	1120	SG	Sample LF02SB04; facing West
1-10	6/29/99	1140	SG	Sample LF02SB12 core; facing East
1-11	6/29/99	1145	SG	Sample LF02SB12; facing West
1-12	6/29/99	1210	SG	Sample LF02SB22 core; facing East
1-13	6/29/99	1215	SG	Sample LF02SB22; facing West
1-14	6/29/99	1425	SG	Sample LF02SB32 core; facing Southeast
1-15	6/29/99	1430	SG	Sample LF02SB32; facing East
1-16	6/30/99	0845	SG	Sample location LF03; facing West
1-17	6/30/99	0850	SG	Sample LF03SB04 core; facing Southeast
1-18	6/30/99	0858	SG	Sample LF03SB04; facing South
1-19	6/30/99	0915	SG	Sample LF03SB12 core; facing South
1-20	6/30/99	0933	SG	Sample location LF04SB in the non-landfill area; facing South
1-21	6/30/99	0950	SG	Sample LF04SB04 core; facing North
1-22	6/30/99	0958	SG	Sample LF04SB04; facing North
1-23	6/30/99	1145	SG	Sample LF04SB12 core; facing North
1-24	6/30/99	1150	SG	Sample LF04SB12; facing North
1-25	6/30/99	1735	SG	Sample LF03SB22 core; facing South
1-26	6/30/99	1805	SG	Sample LF03SB32 core; facing South
1-27	6/30/99	1810	SG	Sample LF03SB32 core; facing South
2-1	7/1/99	0950	CG	Sample LF03SB22 core; facing South
2-2	7/1/99	1020	CG	Sample LF03SB22; facing South

PHOTOGRAPH IDENTIFICATION SHEET

Camera Serial #: Disposable Camera

TDD #: 98-11-0007

Lens Type: 35 mm

Site Name: Wenatchee Landfill Brownfields

Photo Number	Date	Time	Taken By	Description
2-3	7/1/99	1047	CG	Sample location LF05 area; facing Southeast
2-4	7/1/99	1105	CG	Sample LF05SB04; facing South
2-5	7/1/99	1125	CG	Sample LF05SB12 core; facing South
2-6	7/1/99	1245	CG	Sample LF06SB04; facing North
2-7	7/1/99	1255	CG	Sample location LF06; facing West
2-8	7/1/99	1410	CG	Sample location LF07; facing Northeast
2-9	7/1/99	1411	CG	Sample location LF07; facing Northwest
2-10	7/1/99	1430	CG	Sample LF07SB04; facing South
2-11	7/1/99	1440	CG	Sample LF07SB12 core; facing South
2-12	7/1/99	1455	CG	Sample LF07SB12; facing South
2-13	7/1/99	1520	CG	Sample LF07SB22; facing South
2-14	7/1/99	1613	CG	Sample location LF08; facing Northeast
2-15	7/1/99	1614	CG	Sample location LF08; facing Northwest
2-16	7/8/99	1635	CG	Sample LF08SB04; facing North
3-1	7/6/99	1630	SL	Sample LF14SS00; facing West
3-2	7/6/99	1730	SL	Sample LF14SB08; facing West
3-3	7/7/99	1020	SL	Sample location LF14; facing Northeast
3-4	7/7/99	1440	SL	Sample LF11SS00; facing North
3-5	7/7/99	1500	SL	Sample LF11SB08; facing North
3-6	7/7/99	1550	SL	Sample LF11SB22; facing North
3-7	7/8/99	1615	SL	Sample location LF11; facing Southwest
3-8	7/8/99	0915	SL	Sample LF12SS04; facing East
3-9	7/8/99	0950	SL	Sample LF12SS22; facing East
3-10	7/8/99	1010	SL	Sample LF12SB12; facing East
3-11	7/8/99	1020	SL	Sample LF12SB29; facing East
3-12	7/8/99	1400	SL	Sample LF13SS03; facing East
3-13	7/8/99	1420	SL	Sample LF13SB12; facing East
4-1	7/8/99	1020	SL	Sample LF13SB22; facing East
4-2	7/9/99	0943	SL	Sample LF09SB04; facing North

PHOTOGRAPH IDENTIFICATION SHEET

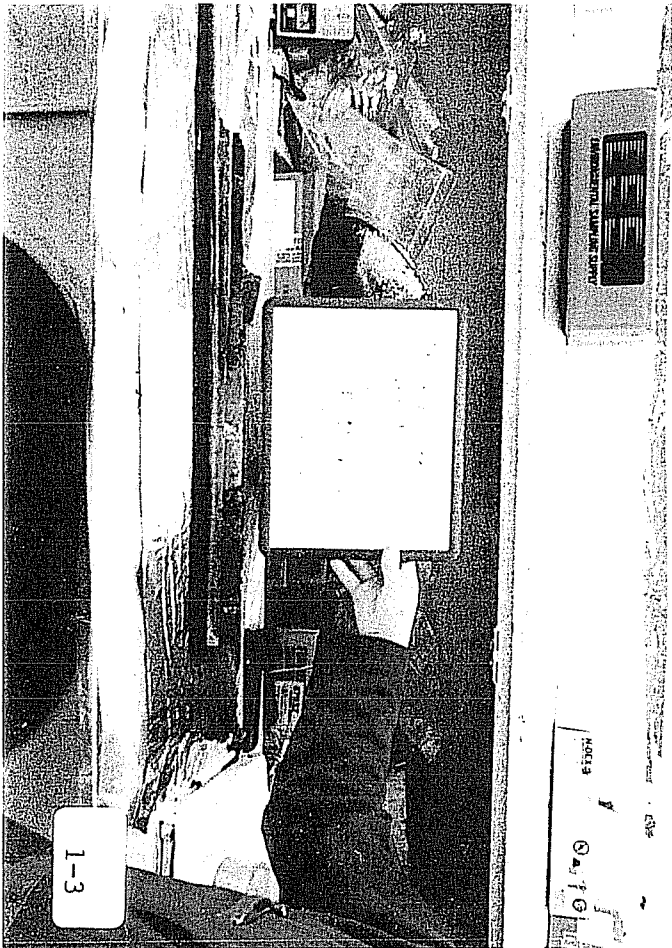
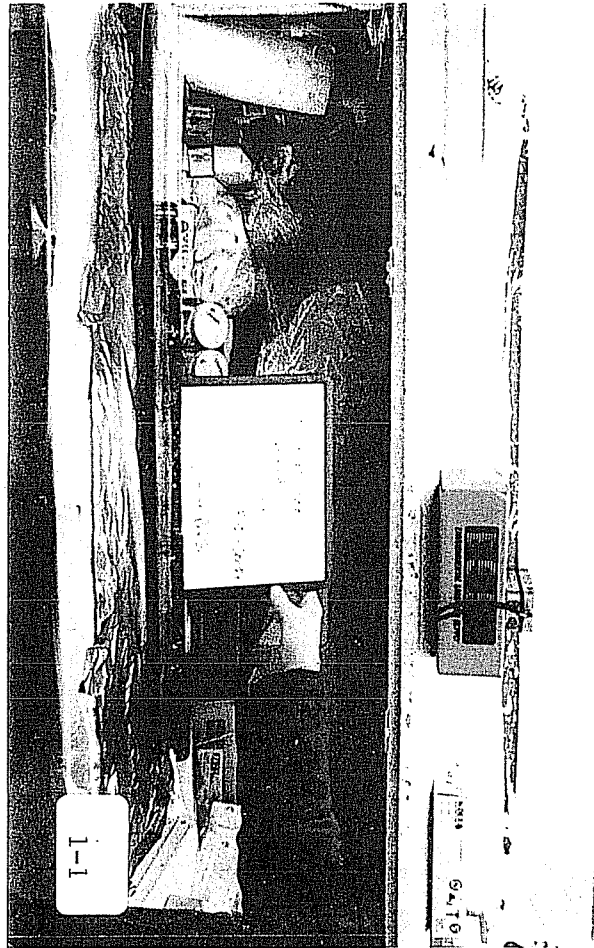
Camera Serial #: Disposable Camera
Lens Type: 35 mm

TDD #: 98-11-0007
Site Name: Wenatchee Landfill Brownfields

Photo Number	Date	Time	Taken By	Description
4-3	7/9/99	0950	SL	Sample LF13SB12; facing North
4-4	7/9/99	0957	SL	Rinsate sample collection; facing South
4-5	7/9/99	1005	SL	Sample LF09SB04; facing West
4-6	7/9/99	1010	SL	Sample LF09SB22; facing West

Key:

CG = Charlie Gregory
SG = Susan Gardner
SL = Susan Lipinski

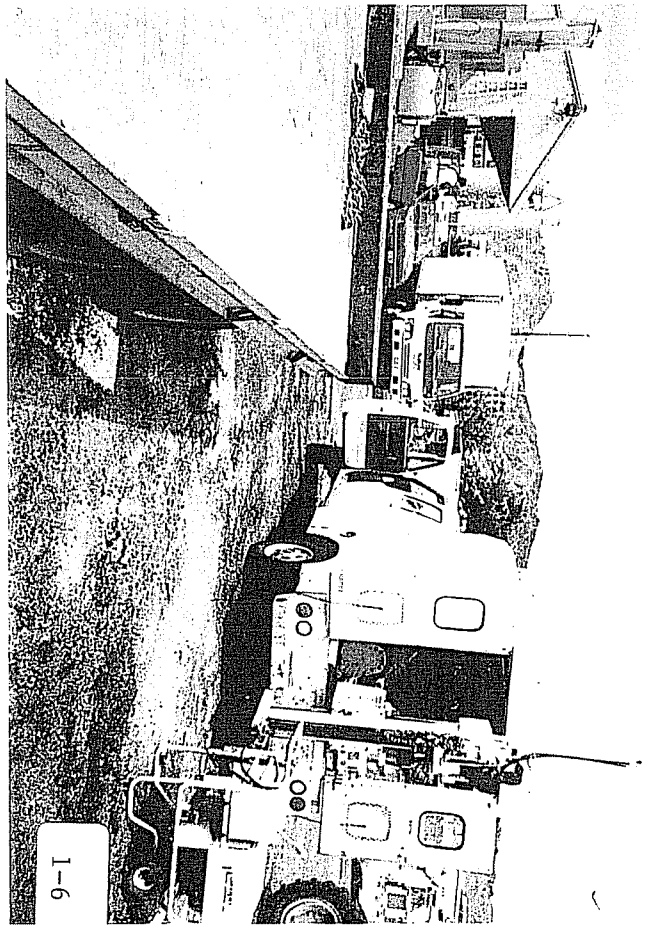




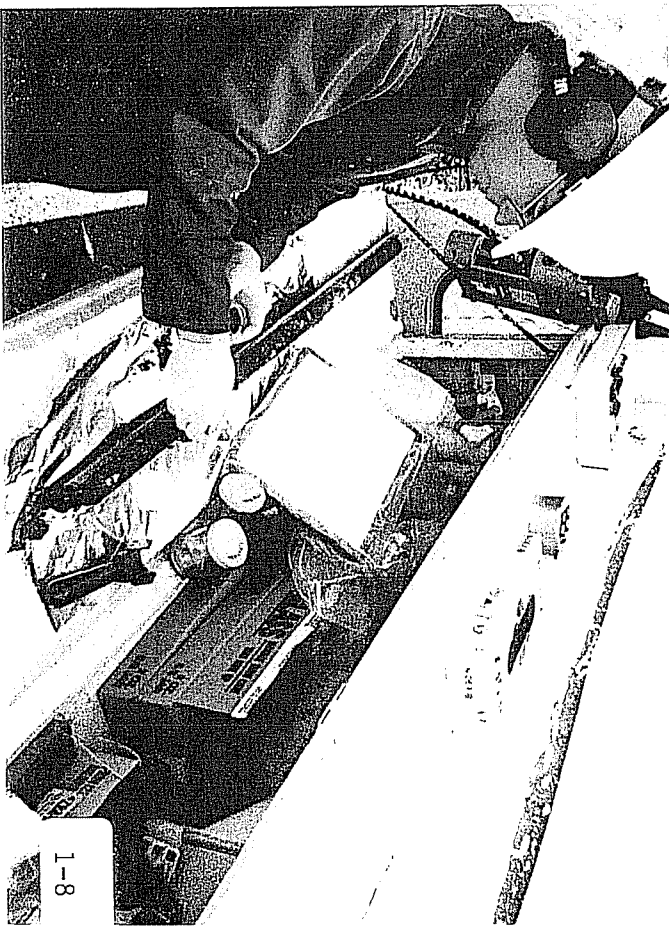
1-5



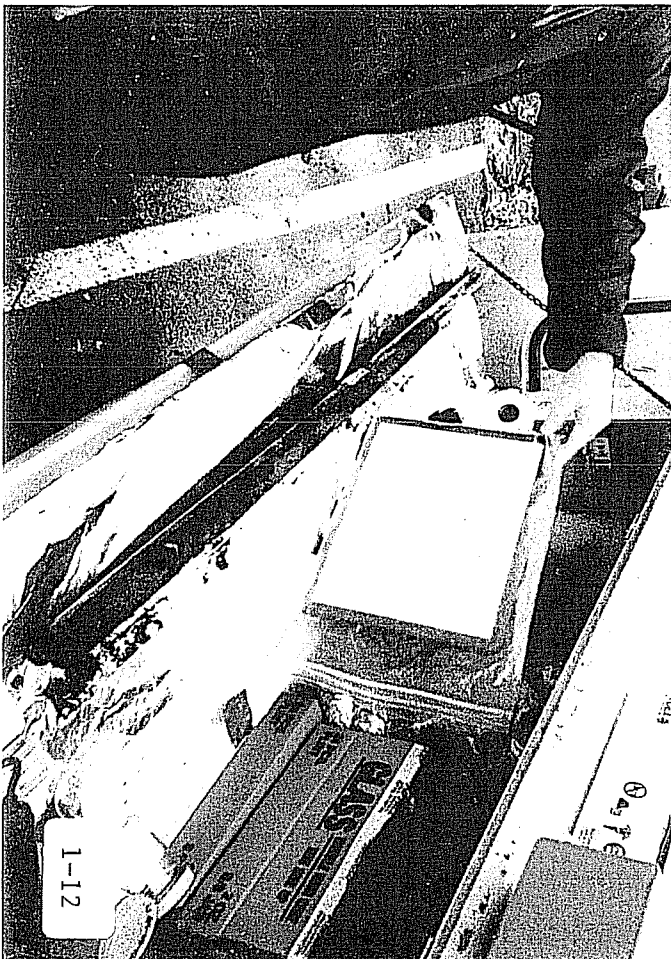
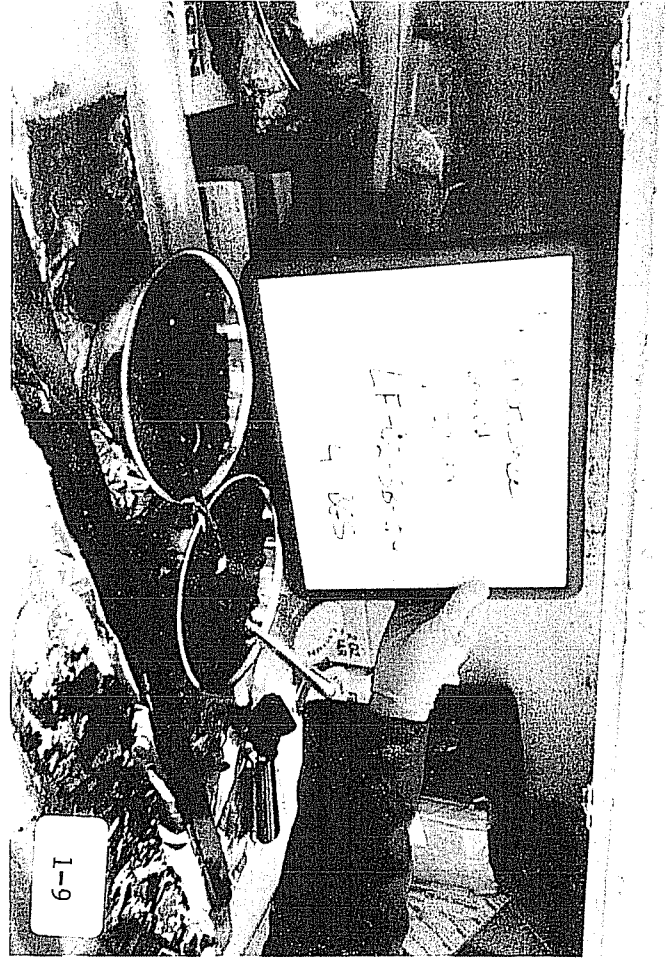
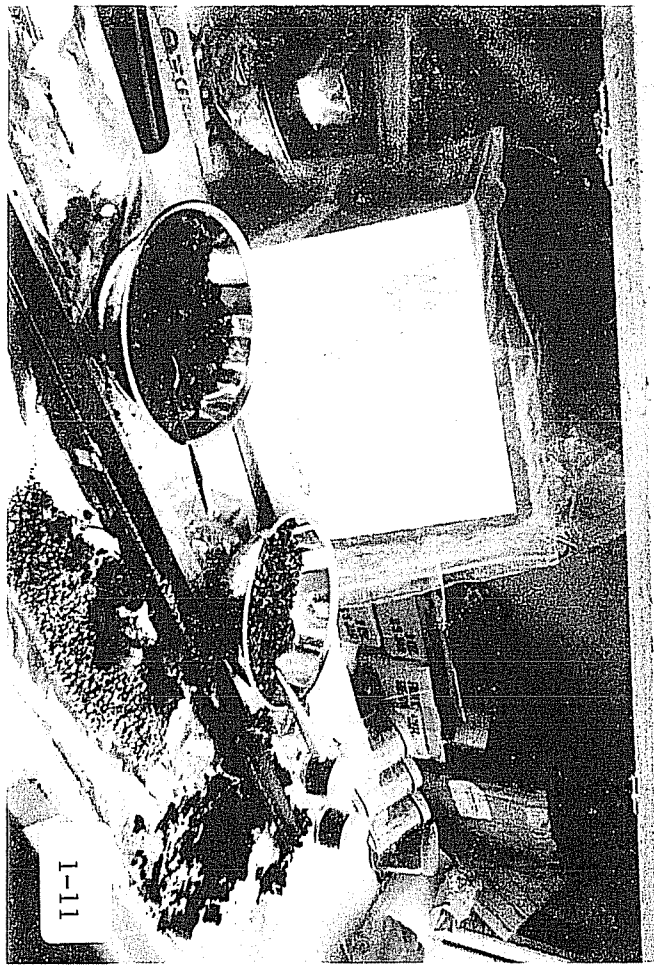
1-7

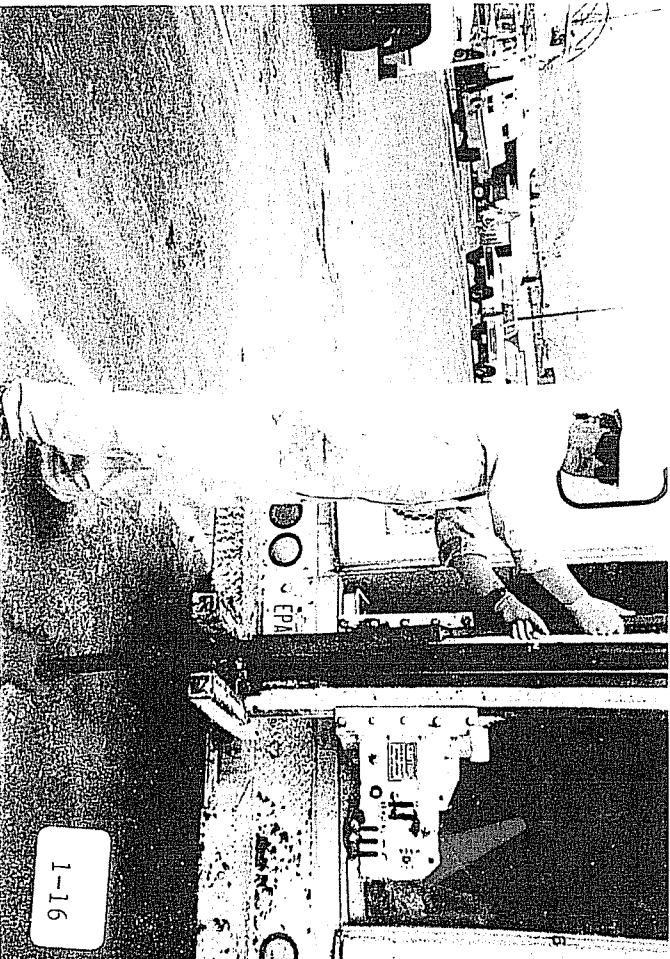
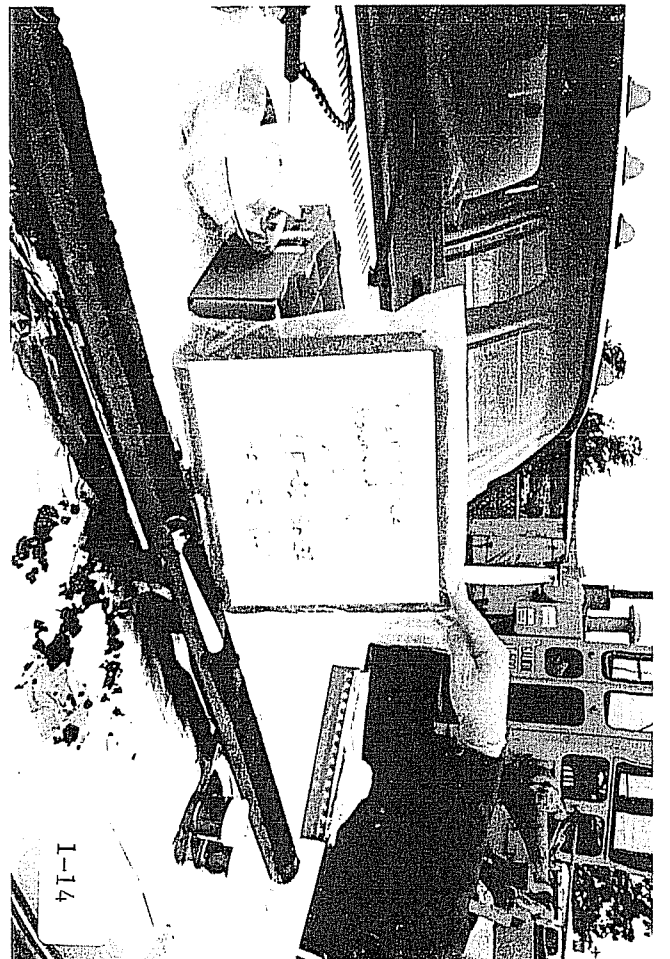
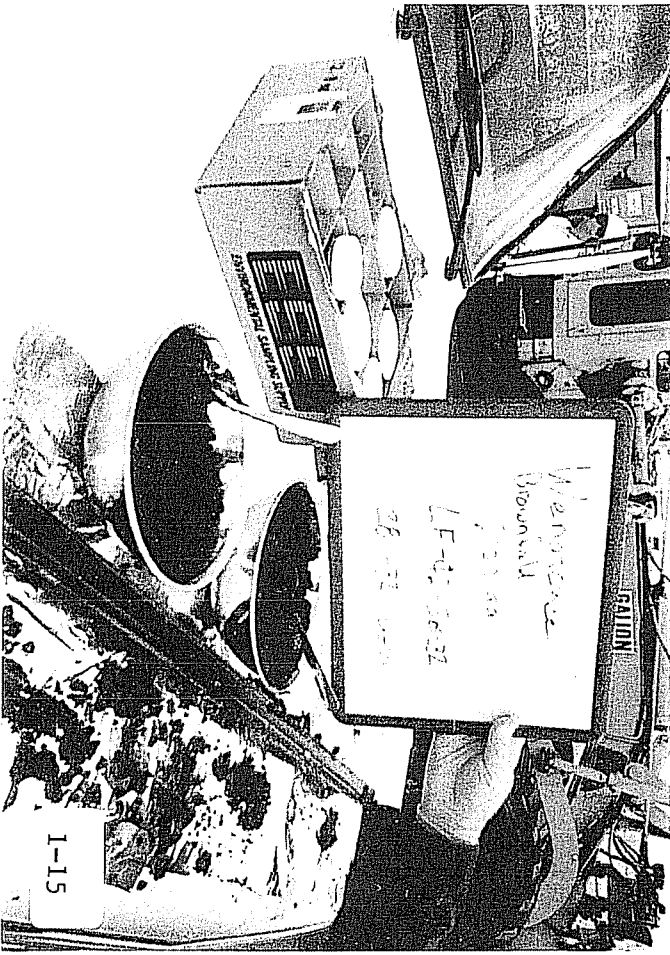
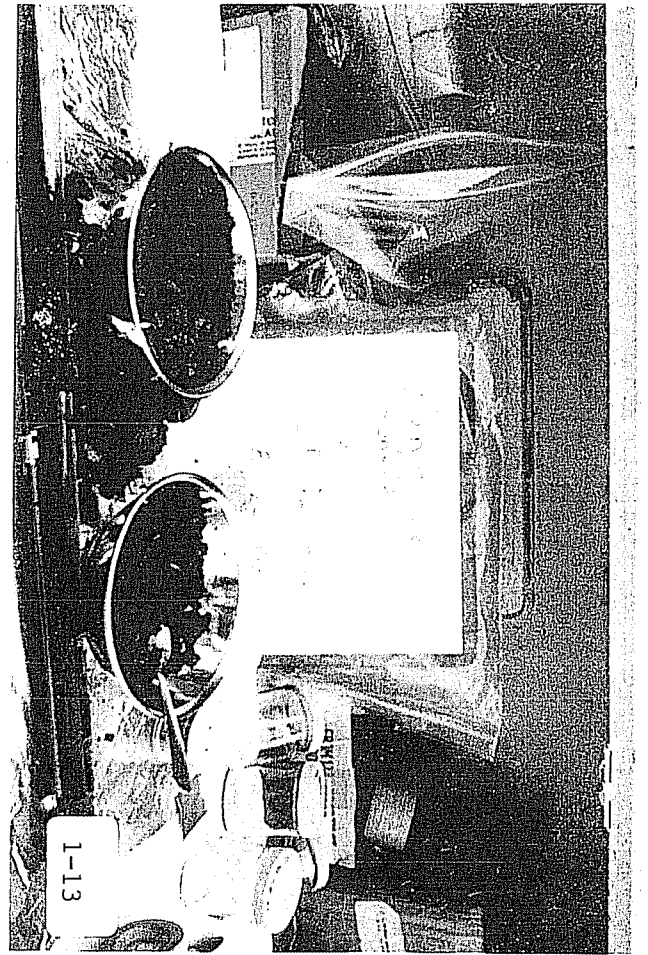


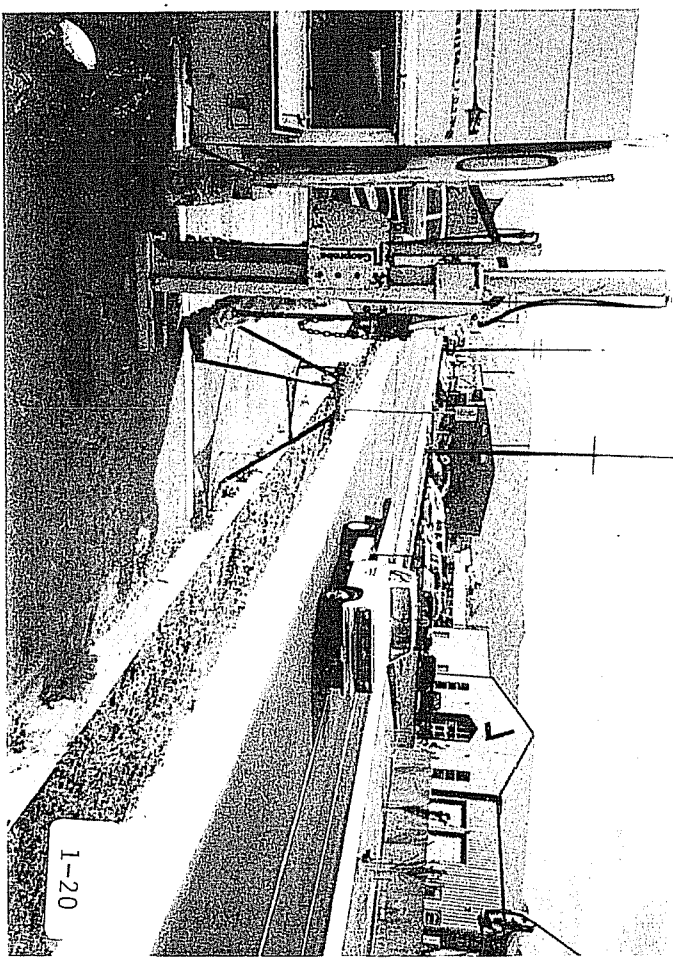
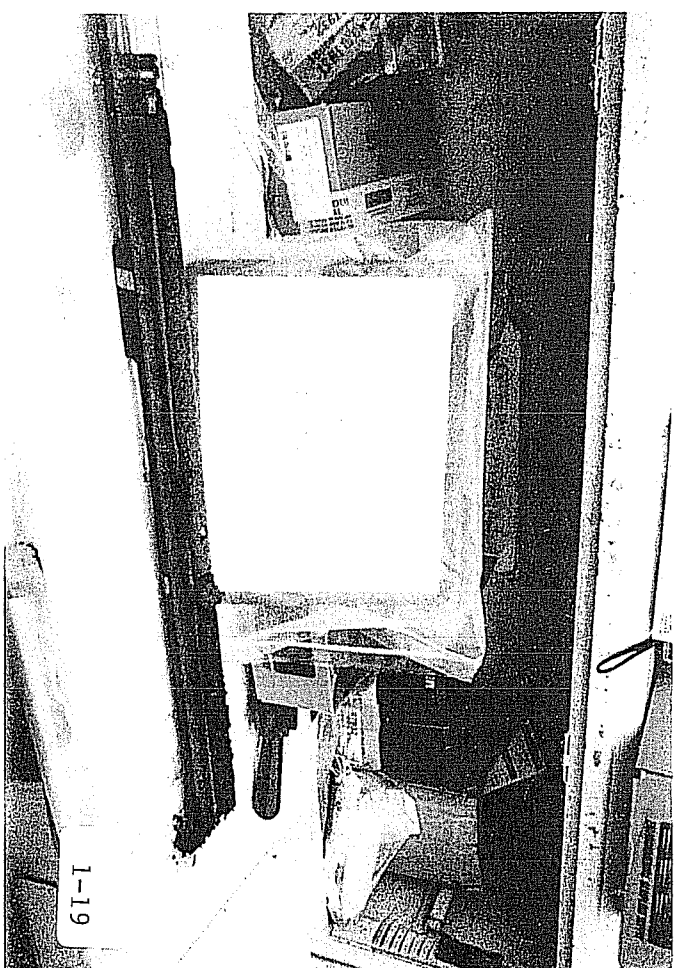
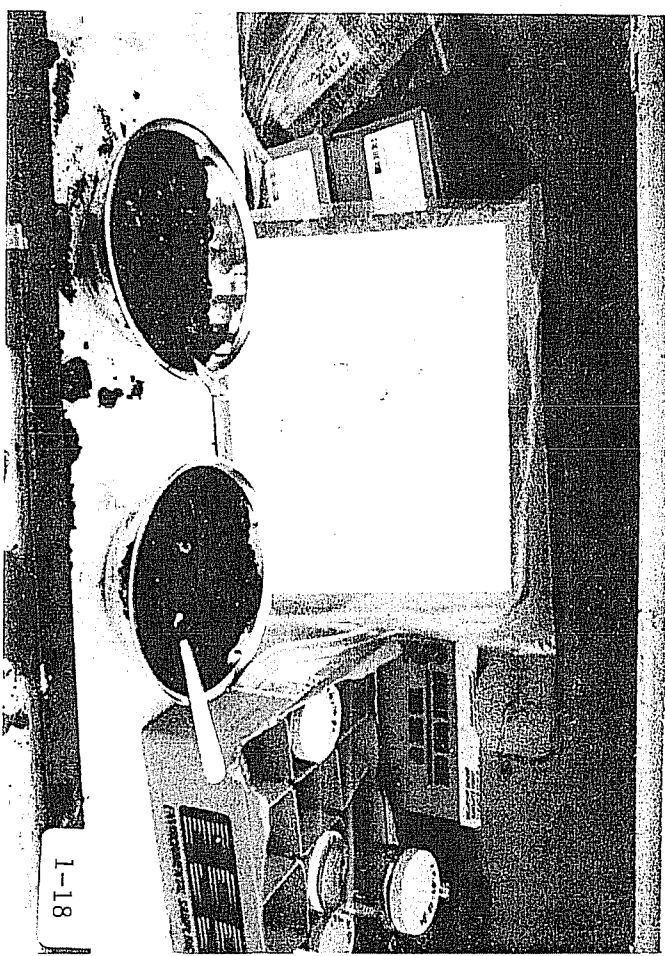
1-6

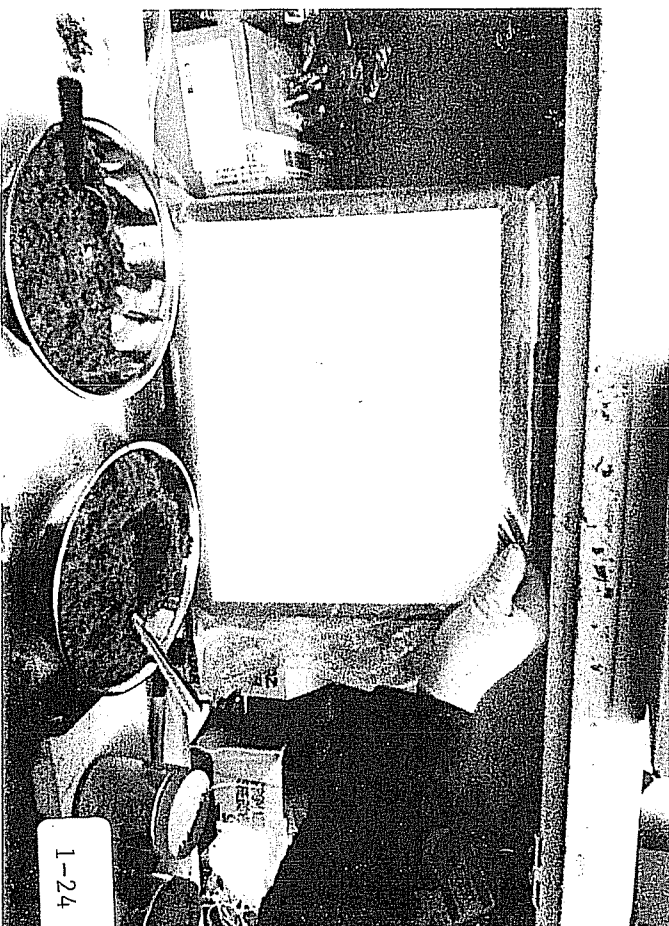
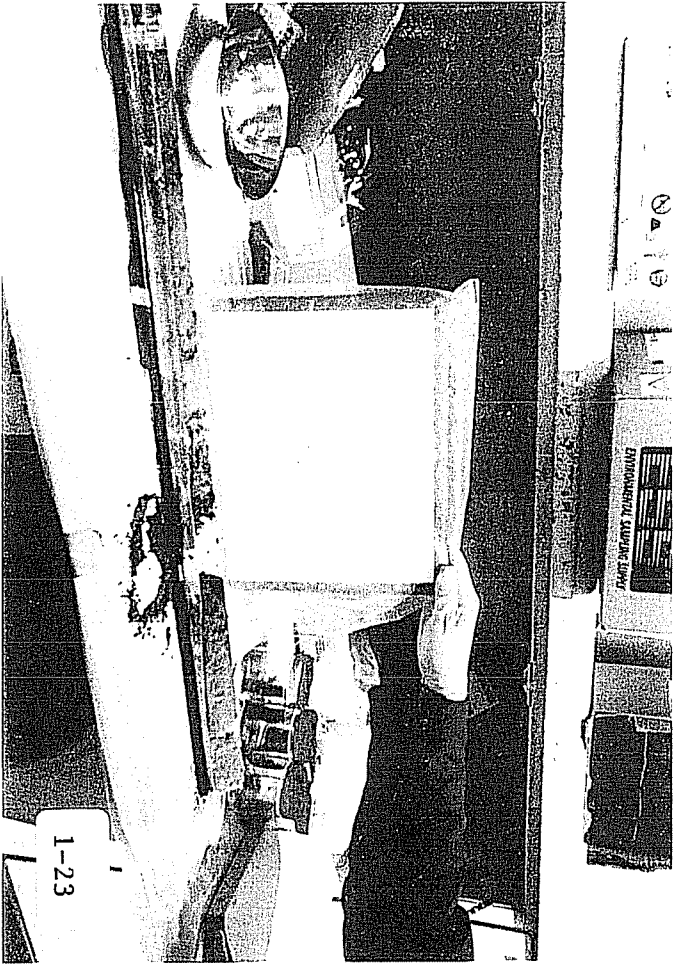
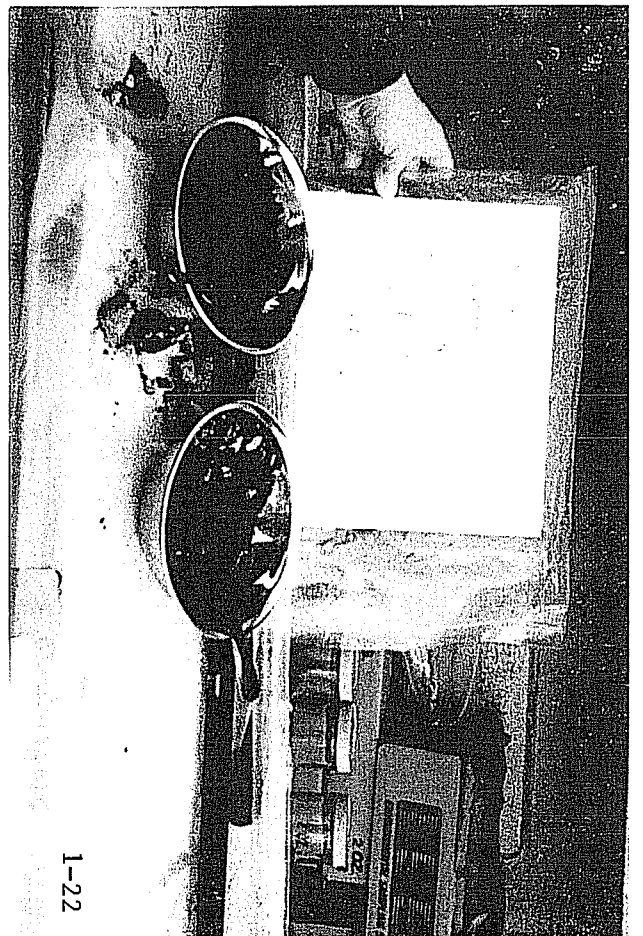
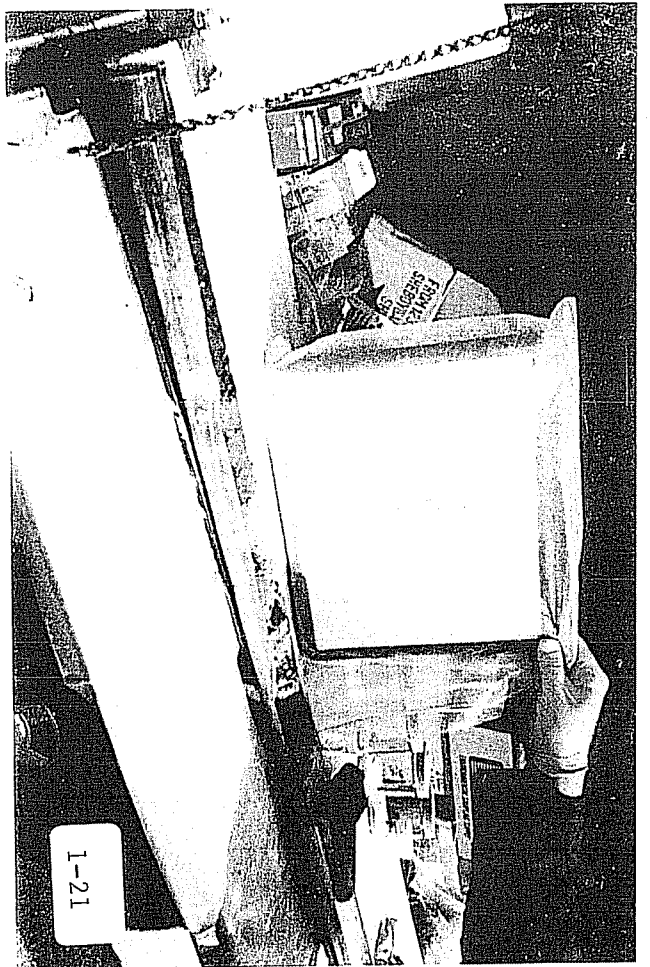


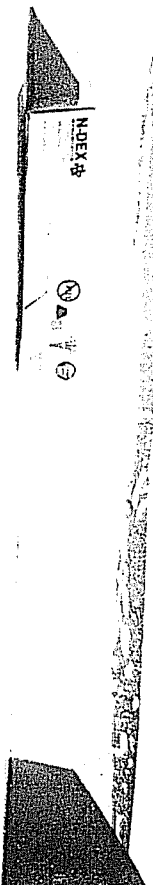
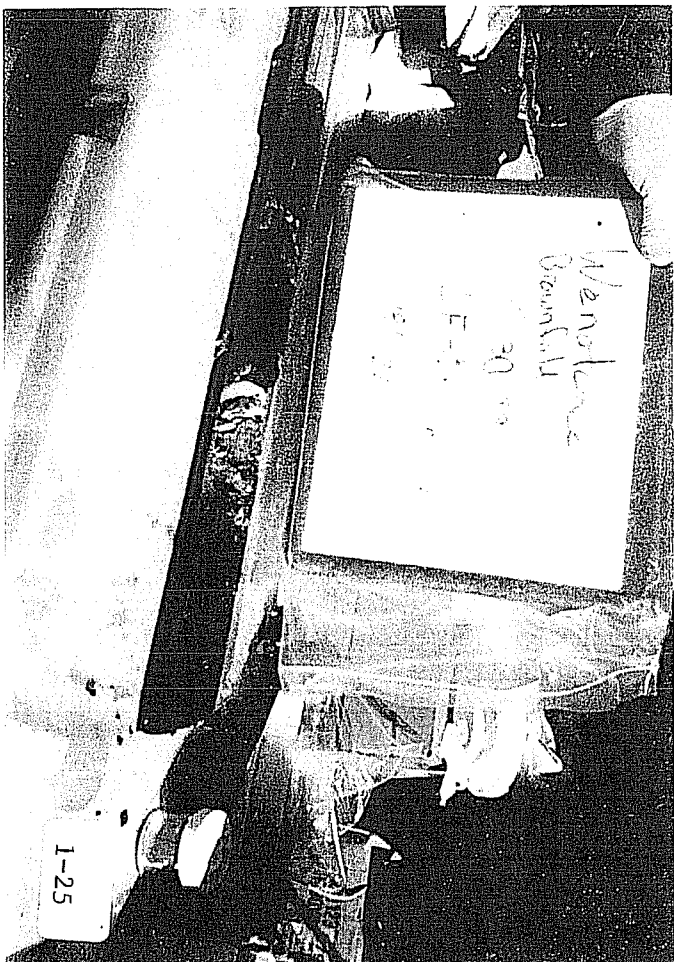
1-8

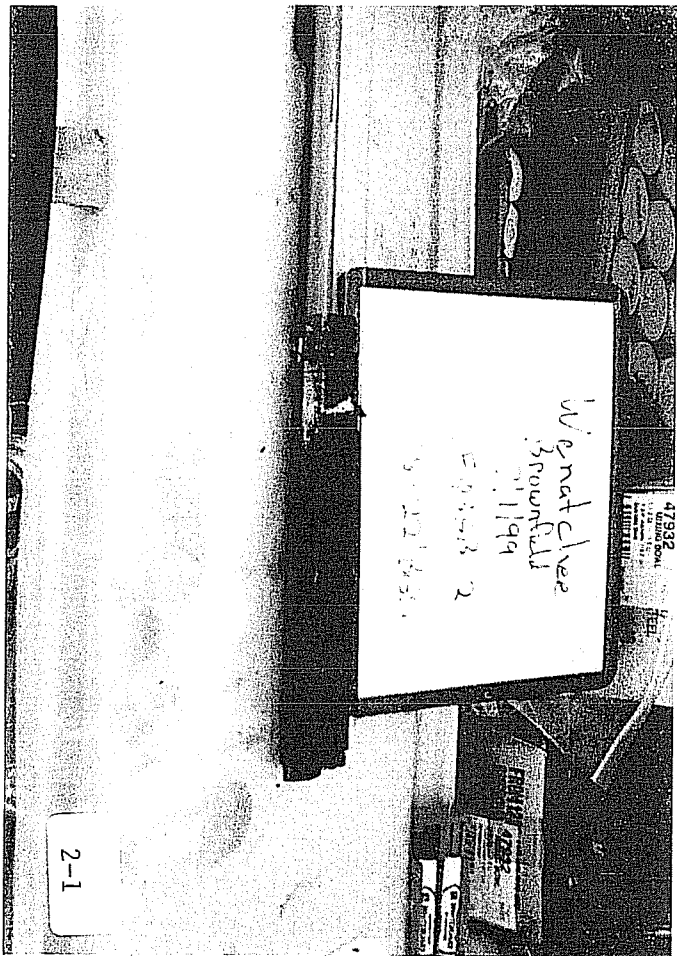




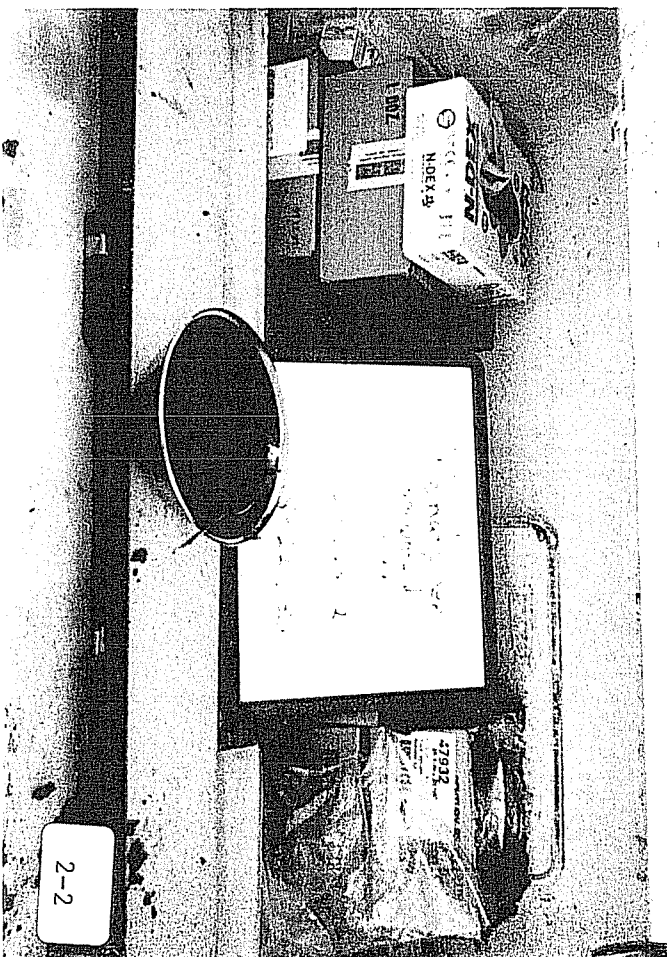




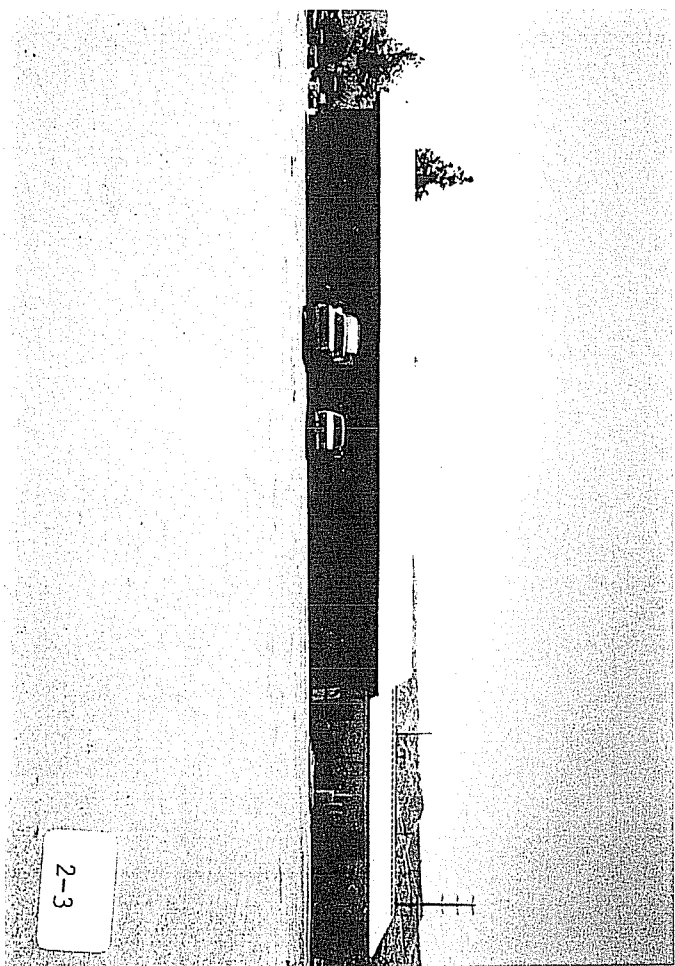




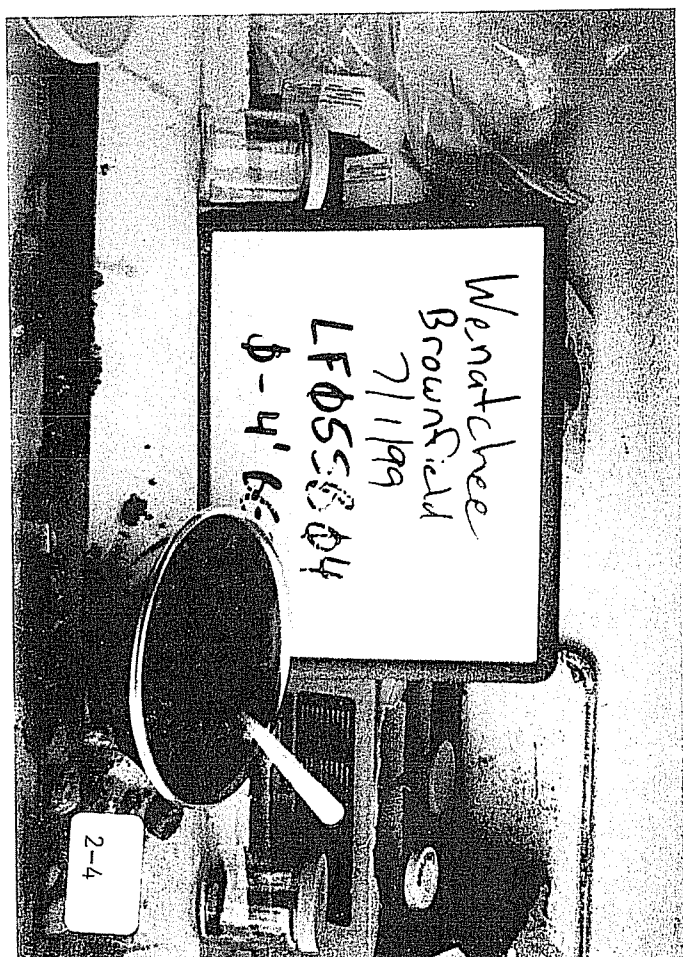
2-1



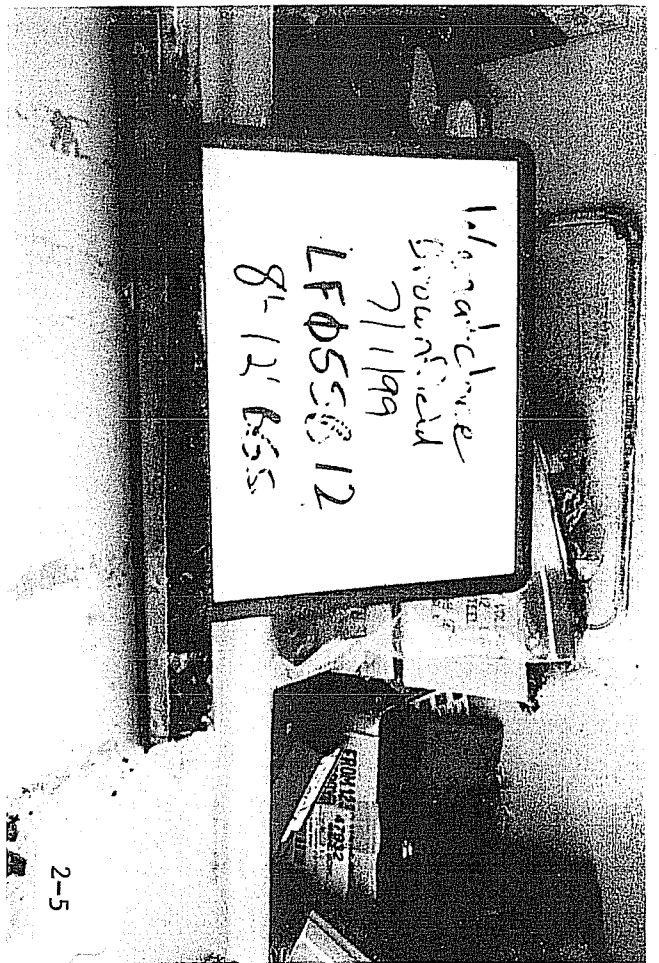
2-2



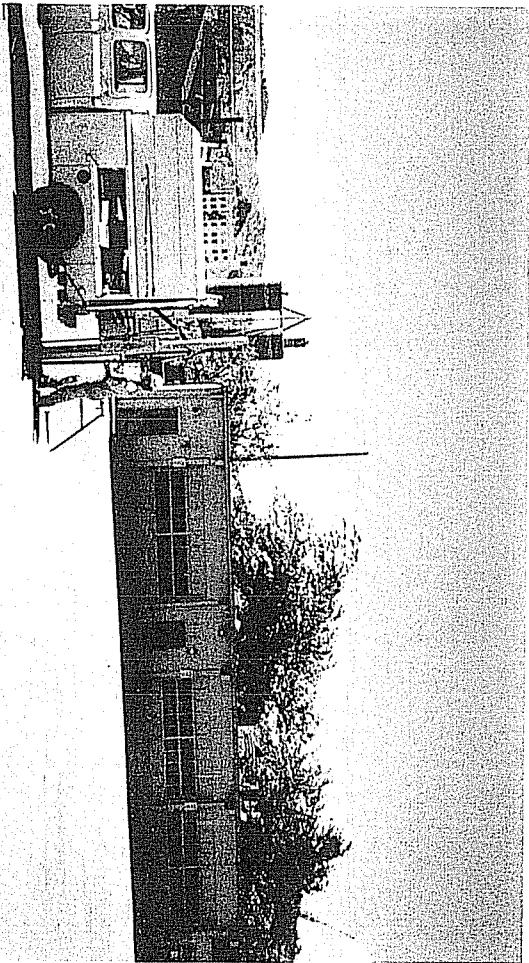
2-3



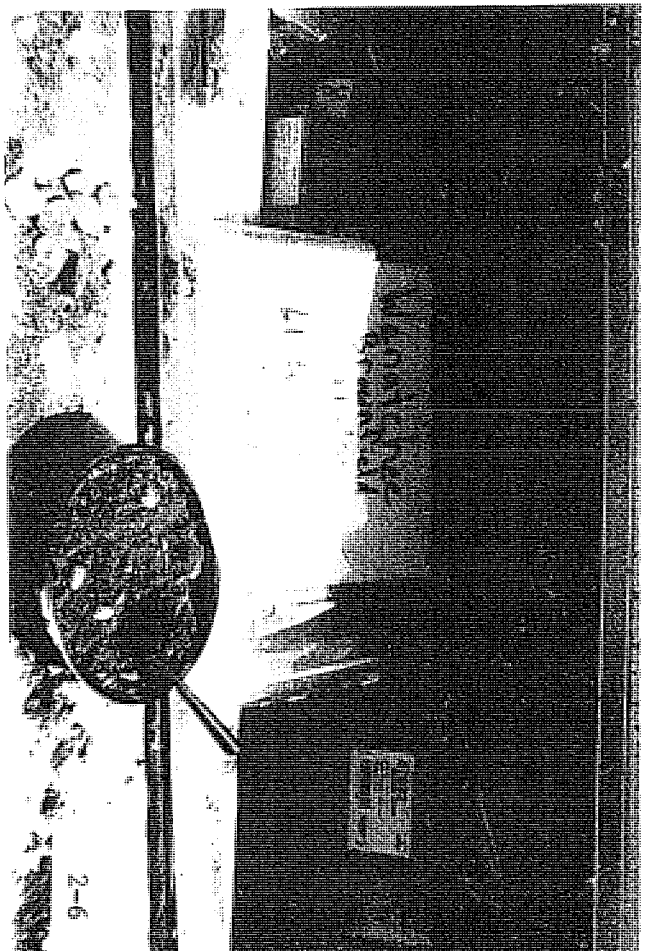
2-4



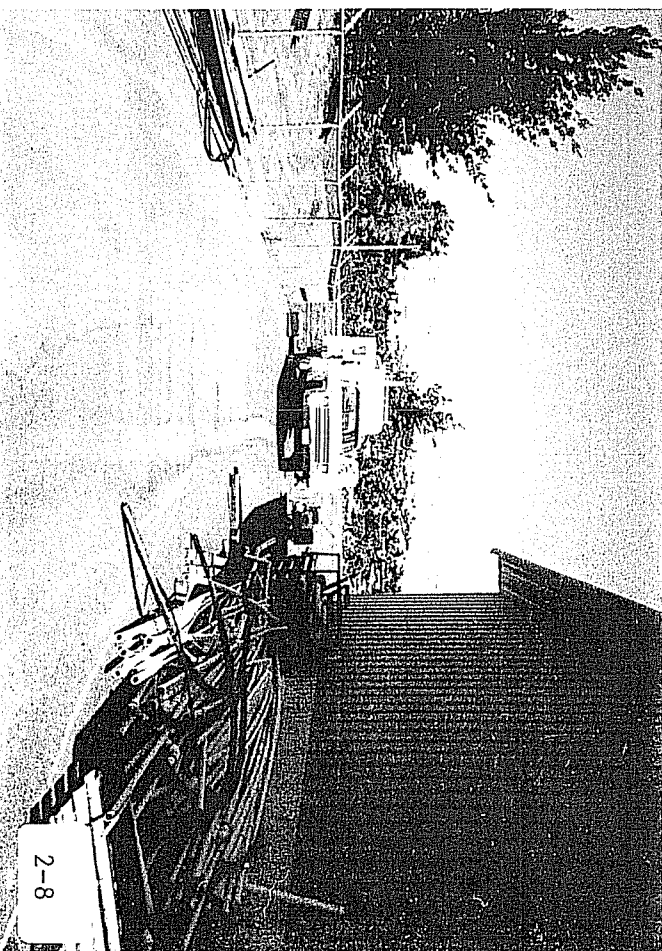
2-5



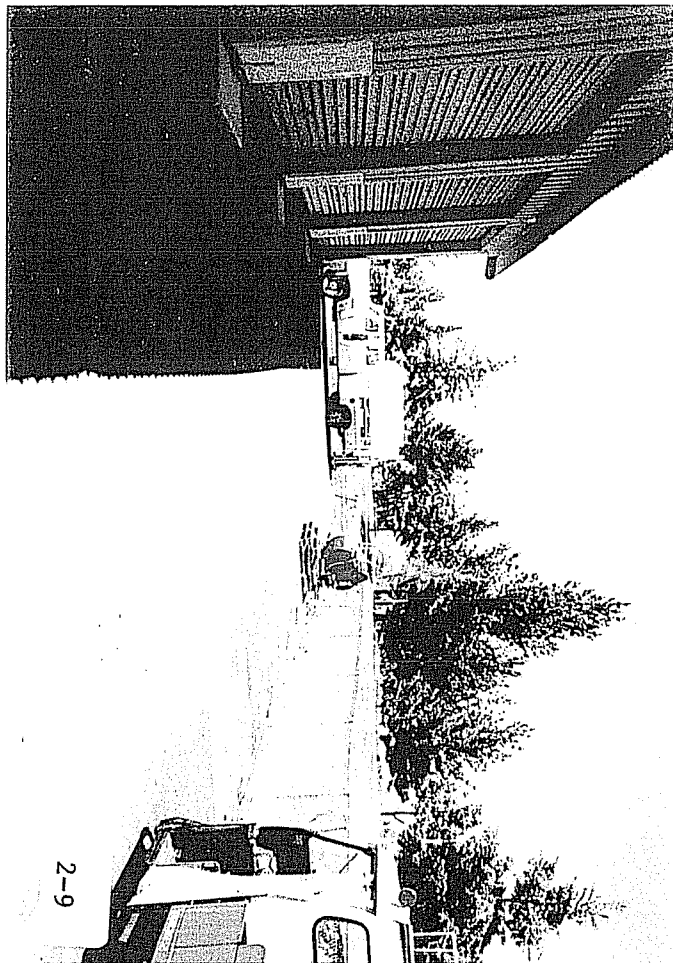
2-7



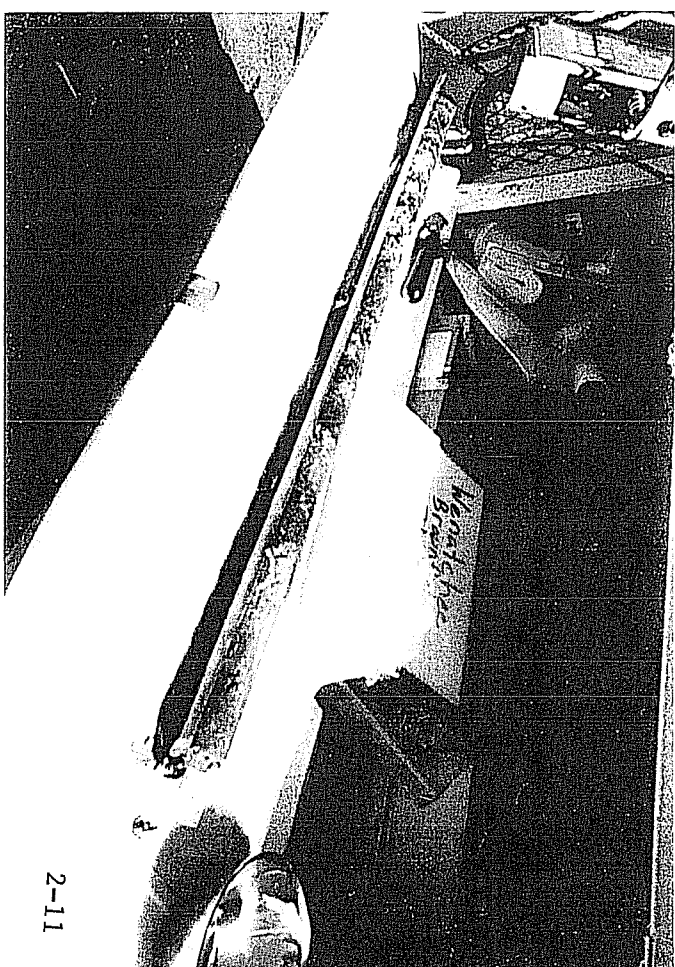
2-6



2-8



2-9



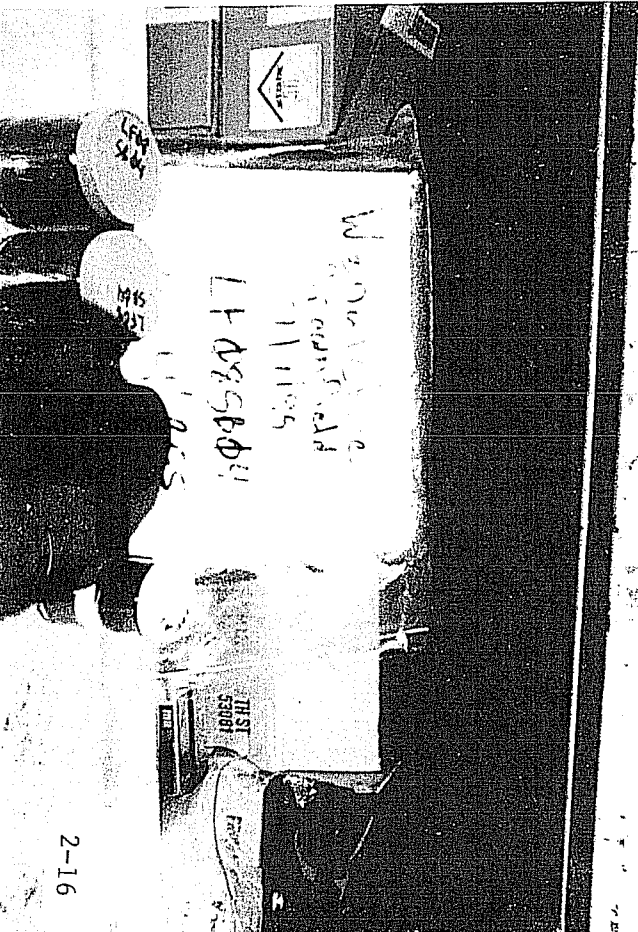
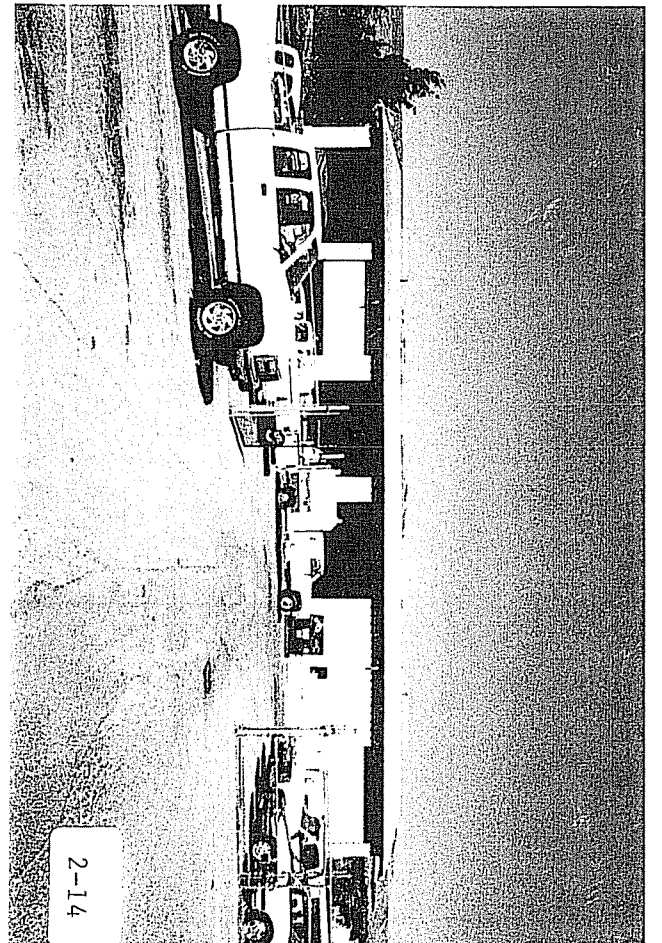
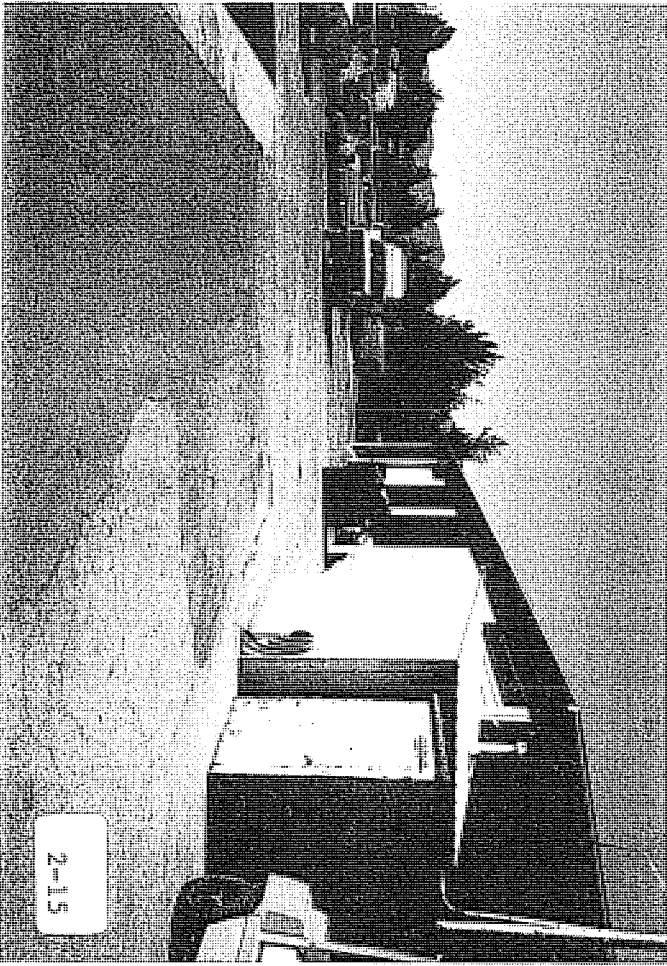
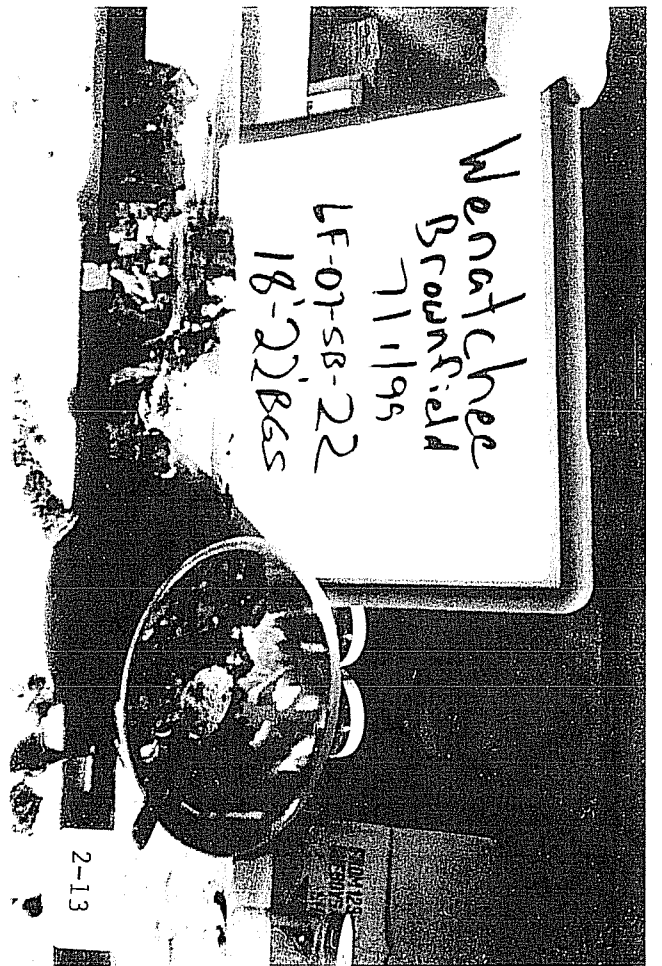
2-11

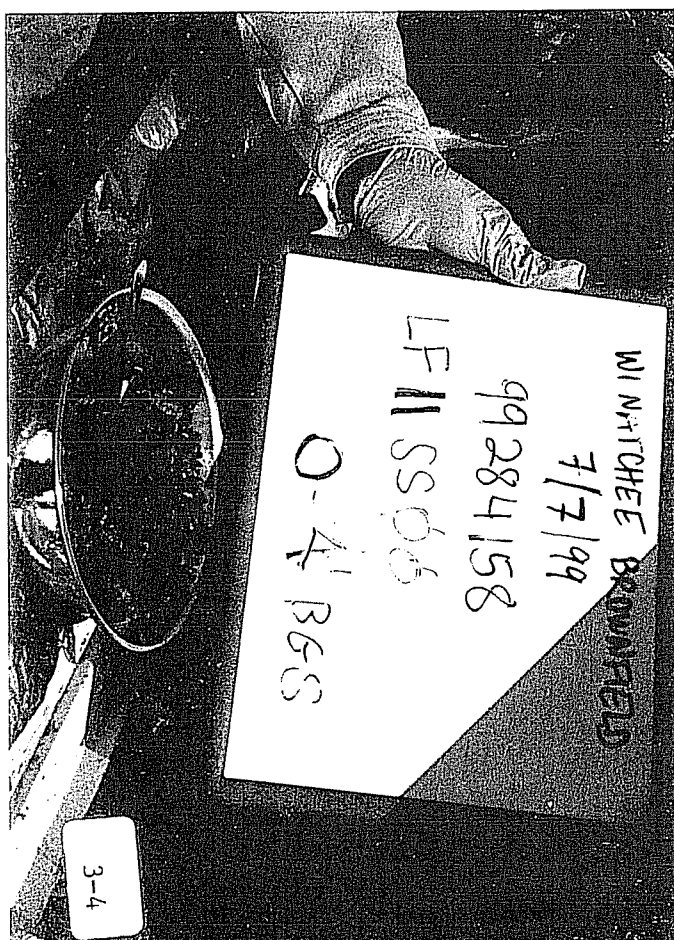
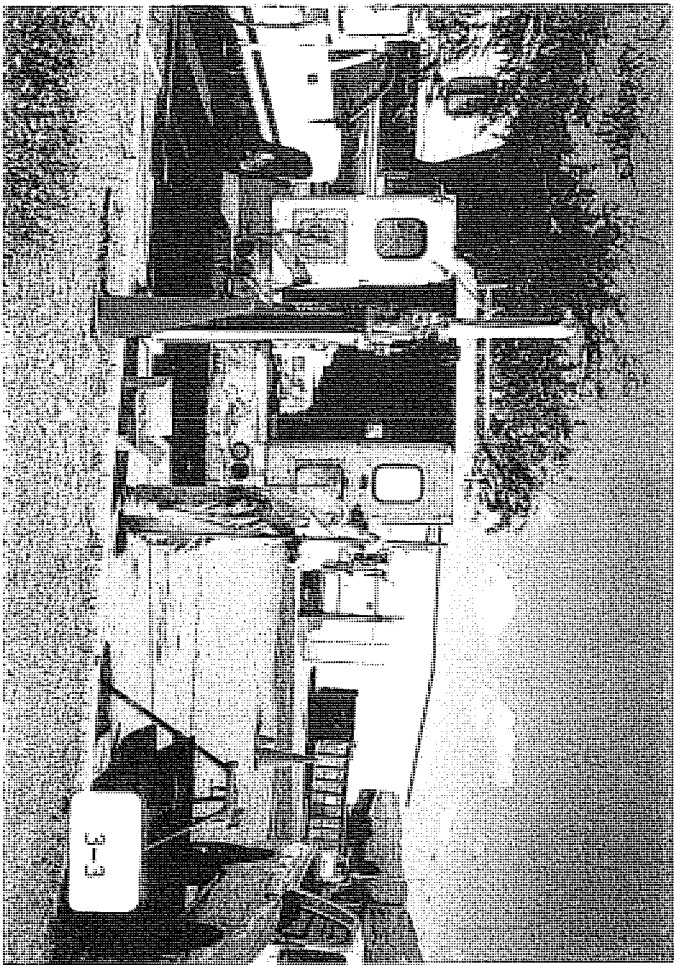
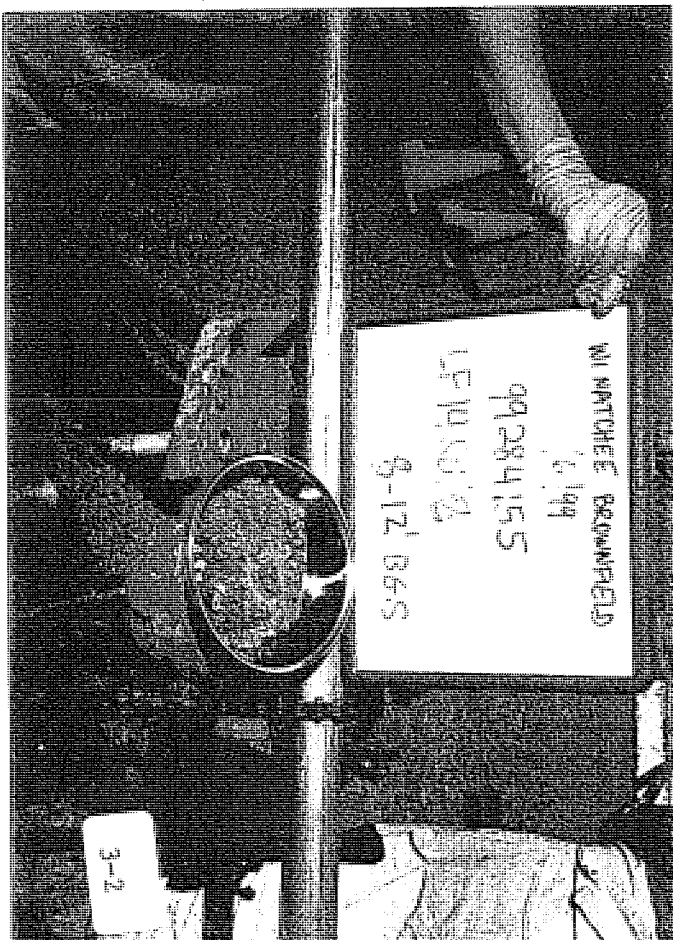
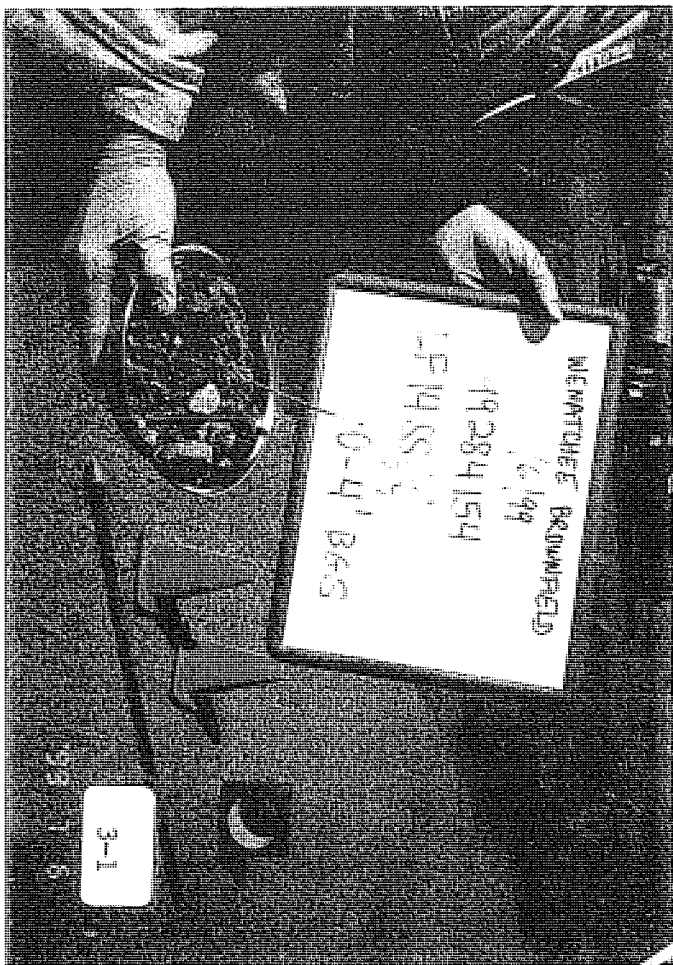


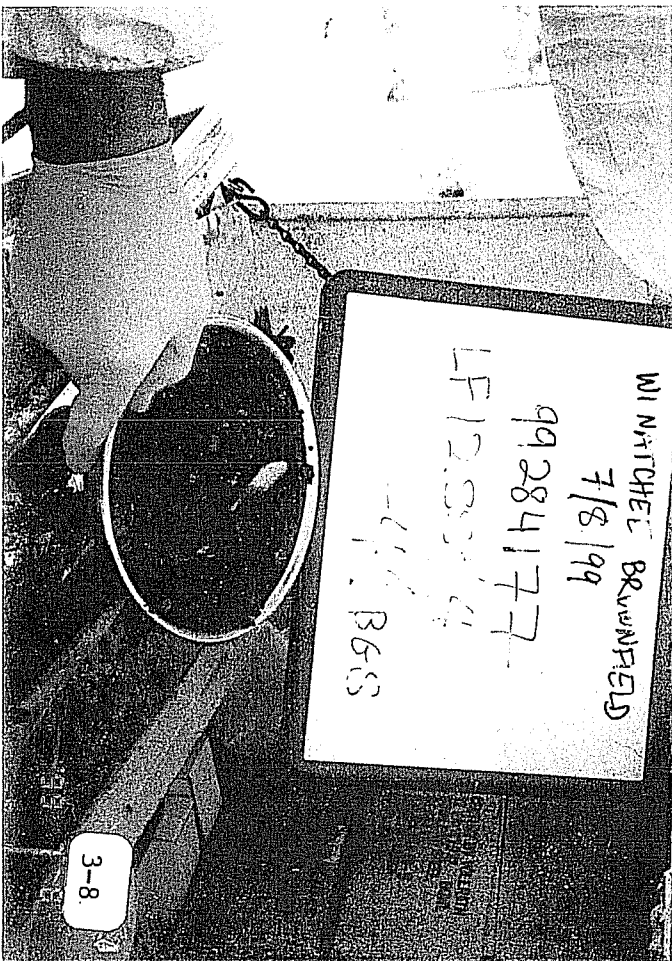
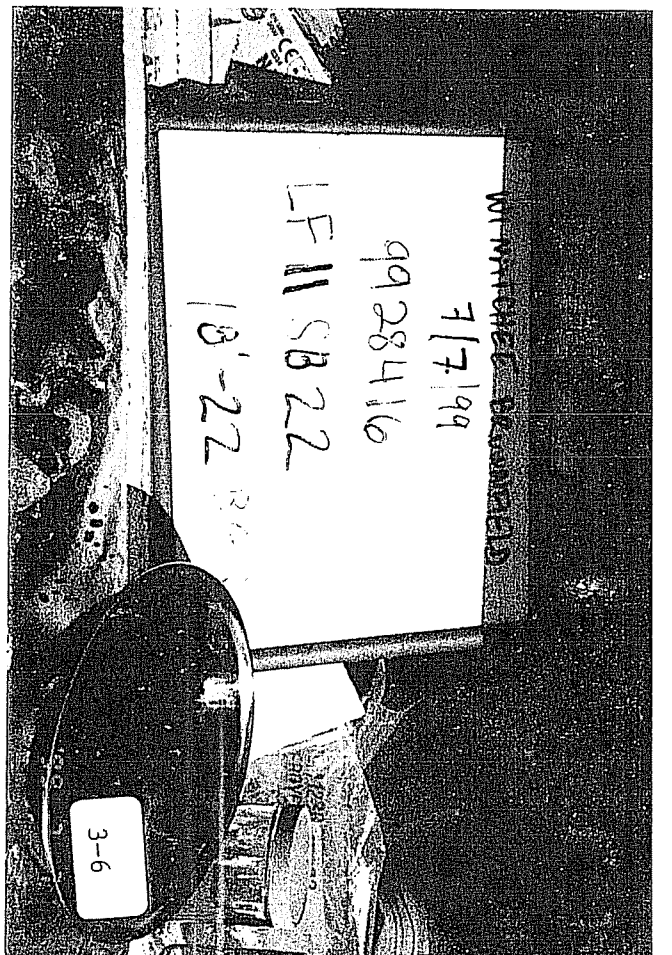
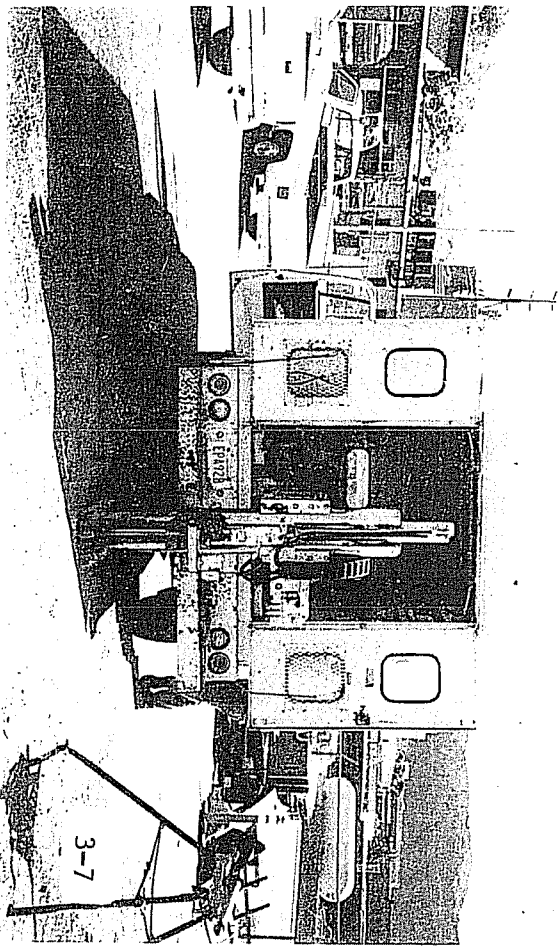
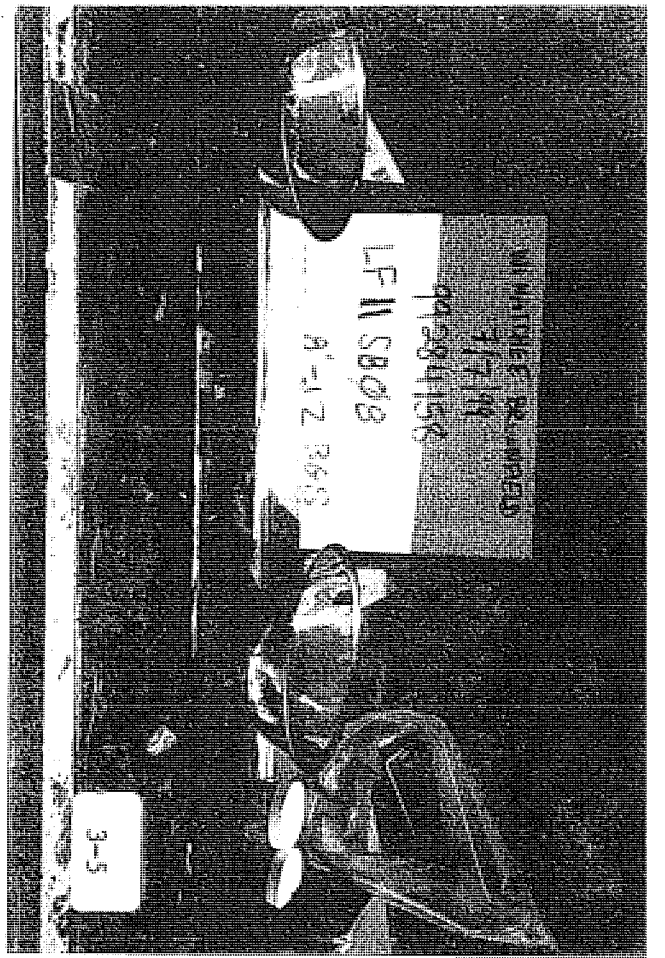
2-10

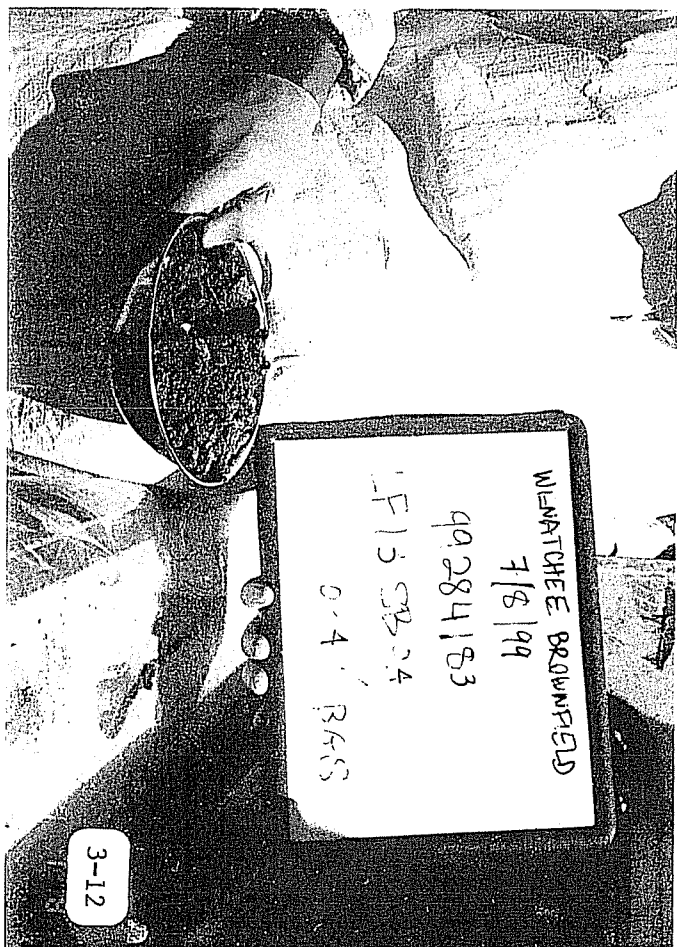
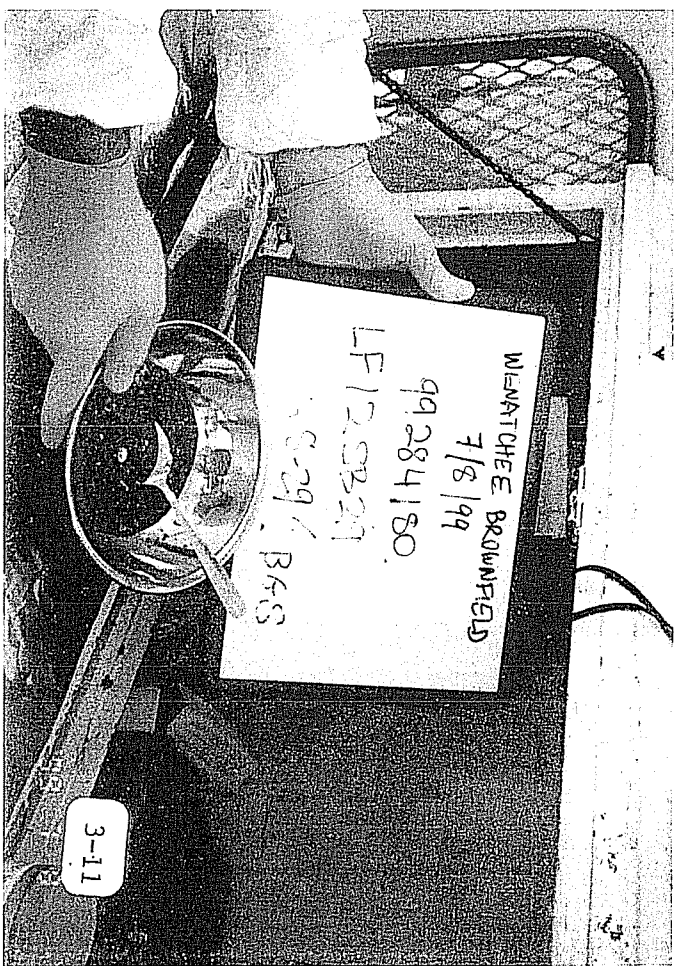
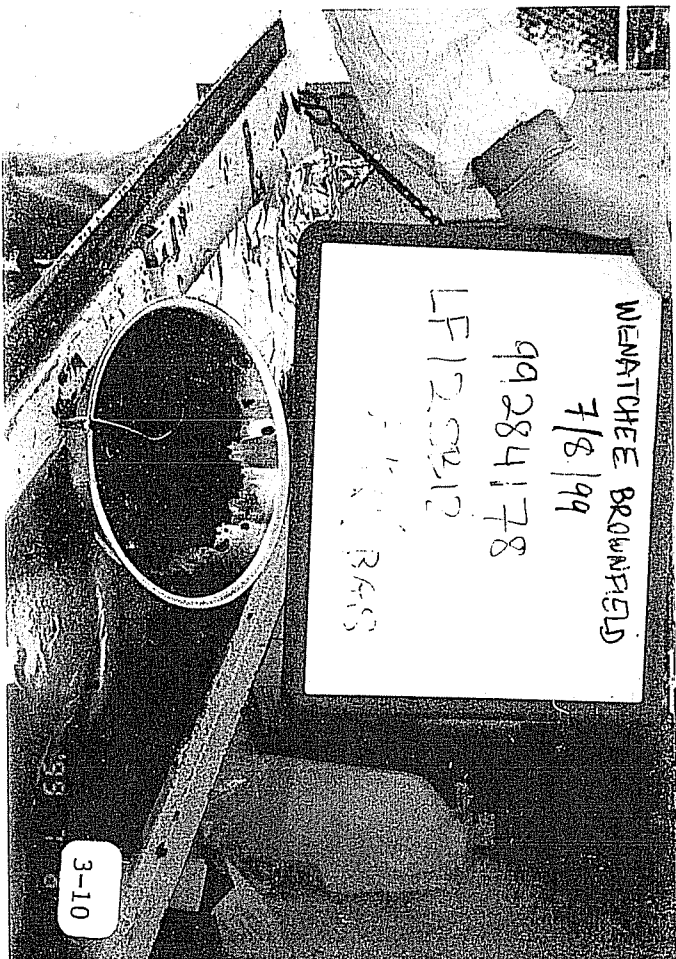
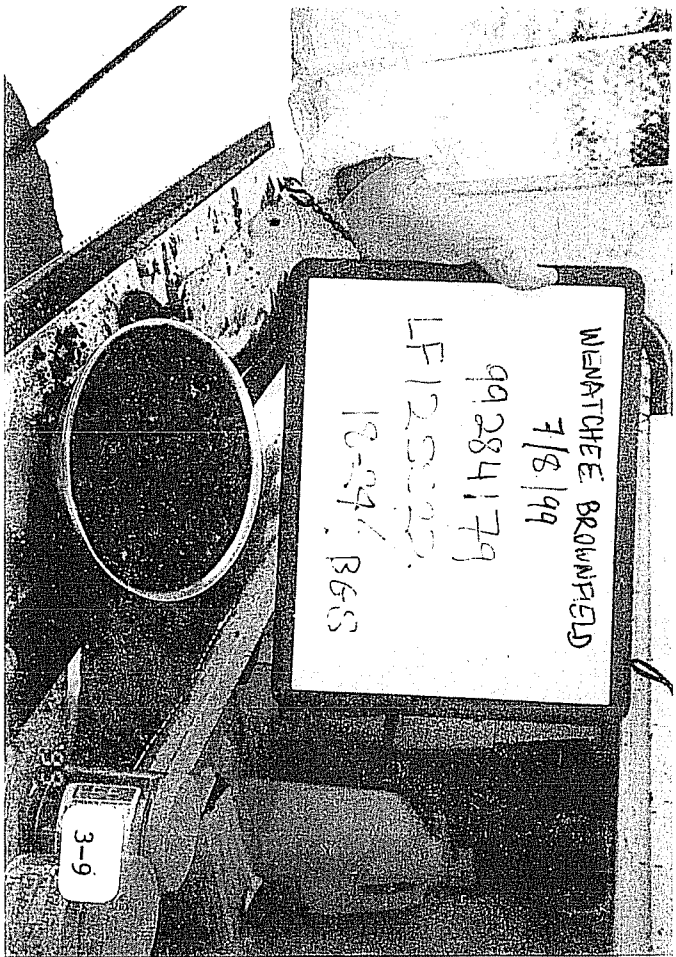


2-12









WENATCHEE BROWNFIELD
7/10/00

7/8/99

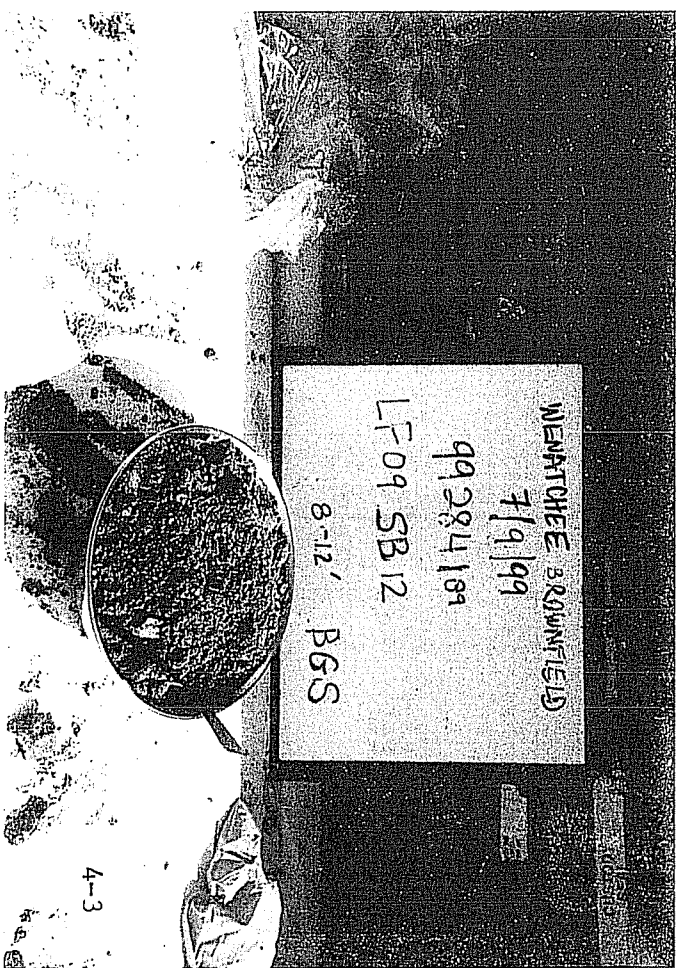
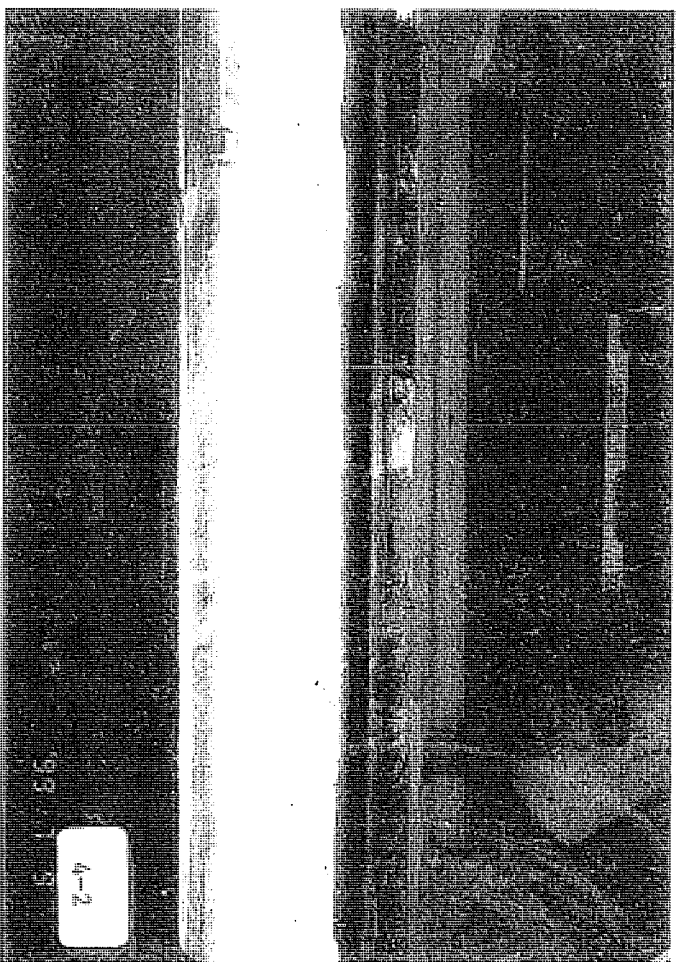
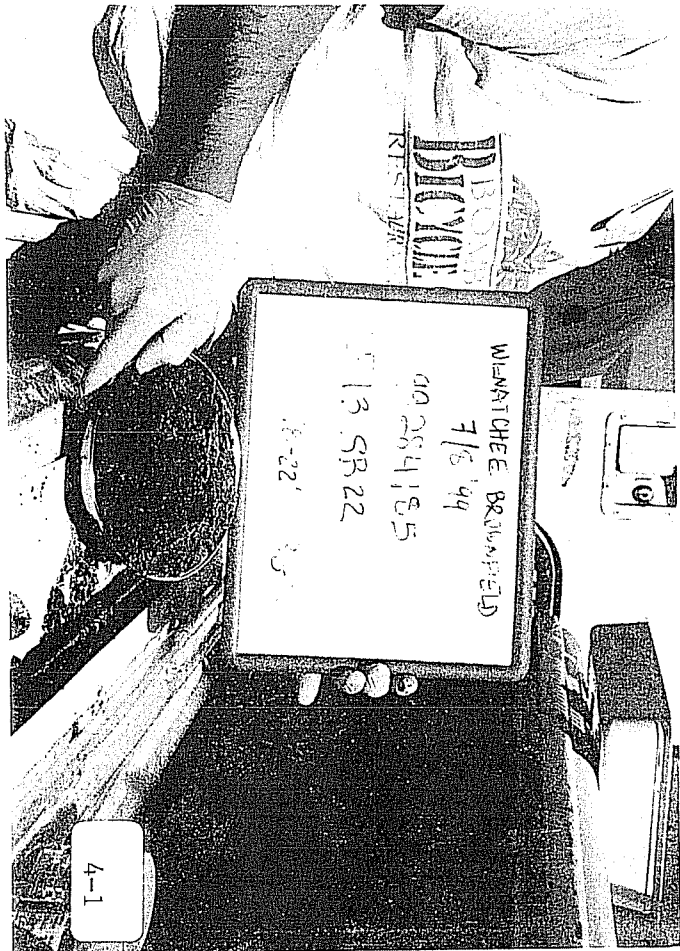
2841800

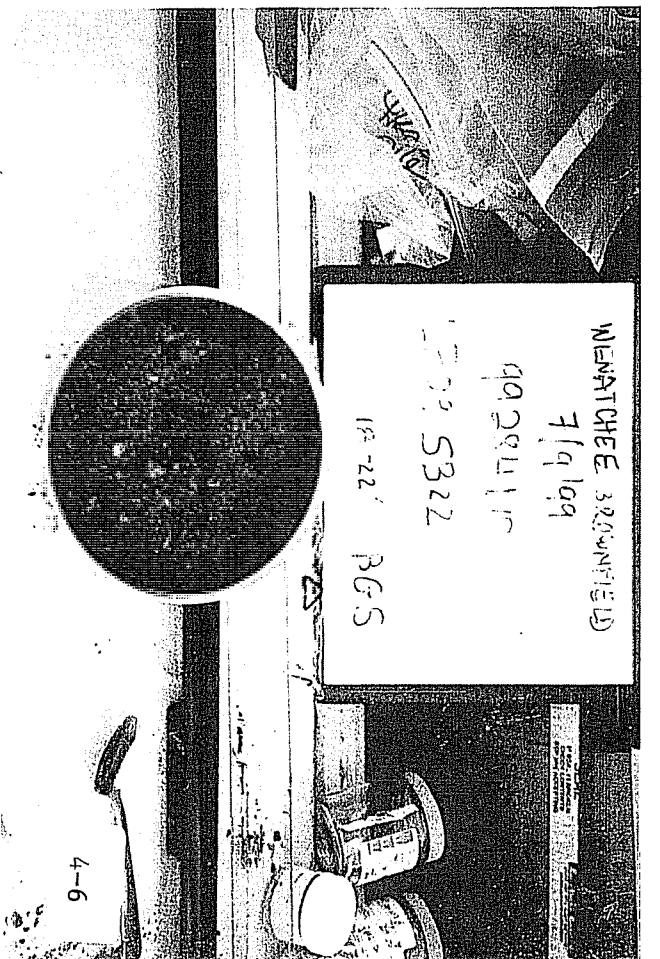
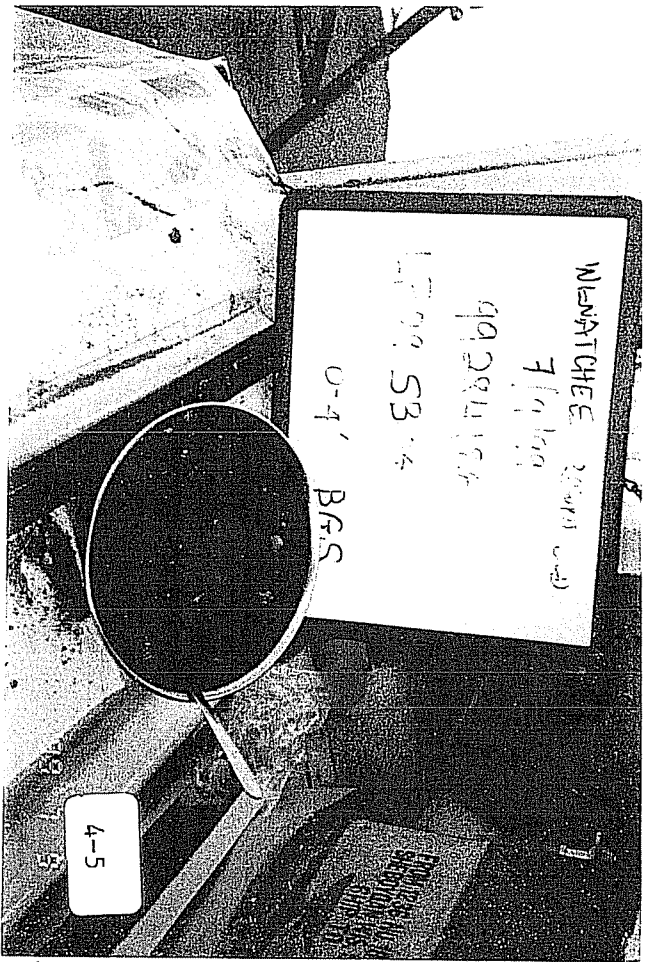
LF 10 23/12

352

3-13

0
1
2
3
4
5
6
7
8
9





SAMPLE ID	MATRIX	INTERNAL STANDARD	%R	QC LIMITS
99274109	Water	¹³ C-1,2,3,4,7,8-HxCDF	17.24	28 - 136 %
99274109	Water	¹³ C-1,2,3,4,6,7,8-HpCDF	19.20	28 - 143 %
99274109	Water	¹³ C-1,2,3,4,7,8,9-HpCDF	20.22	26 - 138 %
99274110	Soil	¹³ C-OCDD	21.41	40 - 135 %
99274114	Water	¹³ C-2,3,7,8-TCDD	23.33	25 - 164 %
99274114	Water	¹³ C-1,2,3,7,8-PeCDD	15.23	25 - 181 %
99274114	Water	¹³ C-1,2,3,4,7,8-HxCDD	18.42	32 - 141 %
99274114	Water	¹³ C-1,2,3,6,7,8-HxCDD	20.63	28 - 130 %
99274114	Water	¹³ C-2,3,7,8-TCDF	17.46	24 - 169 %
99274114	Water	¹³ C-1,2,3,7,8-PeCDF	14.72	24 - 185 %
99274114	Water	¹³ C-2,3,4,7,8-PeCDF	13.15	21 - 178 %
99274114	Water	¹³ C-1,2,3,4,7,8-HxCDF	20.31	26 - 152 %
99274114	Water	¹³ C-1,2,3,7,8,9-HxCDF	20.51	26 - 123 %
99274114	Water	¹³ C-2,3,4,6,7,8-HxCDF	17.38	29 - 147 %
99274114	Water	¹³ C-1,2,3,4,7,8-HxCDF	16.55	28 - 136 %
99274114	Water	¹³ C-1,2,3,4,6,7,8-HpCDF	16.77	28 - 143 %
99274114	Water	¹³ C-1,2,3,4,7,8,9-HpCDF	20.50	26 - 138 %

TCDD = Tetrachlorodibenzodioxin.

PeCDD = Pentachlorodibenzodioxin.

HxCDD = Hexachlorodibenzodioxin.

HpCDD = Heptachlorodibenzodioxin.

OCDD = Octachlorodibenzodioxin.

TCDF = Tetrachlorodibenzofuran.

PeCDF = Pentachlorodibenzofuran.

HxCDF = Hexachlorodibenzofuran.

HpCDF = Heptachlorodibenzofuran.

Quantitation limits and positive results for associated analytes were flagged as estimated (UJ or J).

VI Surrogate Recoveries: Not Applicable.

Surrogates were not required for this method. Clean-up standard ³⁷Cl-2,3,7,8-TCDD was added to all samples and QC samples. The clean-up standard recoveries were acceptable.

VII Duplicate Sample Analysis: Not Applicable.

Duplicate sample analyses were not performed and no action was taken on this basis.

BLANK ID	MATRIX	COMPOUND	CONC.	ASSOCIATED SAMPLES
DBLK3	Water	1,2,3,4,6,7,8-HpCDD	8.531 pg/L	***
DBLK3	Water	OCDD	105.765 pg/L	***

CONC. = Concentration.

HpCDD = Heptachlorodibenzodioxin.

OCDD = Octachlorodibenzodioxin.

* - Samples 99274102 through 99274106.

** - Samples 99274107, 99274108, 99274110, 99274111, 99274113, 99274115, and 99274116.

*** - Samples 99274109, 99274114, and 99274117.

Reported levels of the above compounds in the associated samples were qualified as non-detect (U), due to the concentration were below five times the concentration value in the blank. The TEF factor was also corrected by the reviewer because of blank contamination.

V Internal Standards: Satisfactory.

All internal standard (IS) ion abundance ratios were within method QC limits. All IS percent recovery (%R) values were within the QC limits, except:

SAMPLE ID	MATRIX	INTERNAL STANDARD	%R	QC LIMITS
99274102	Soil	¹³ C-1,2,3,4,6,7,8-HpCDD	30.09	40 - 135 %
99274102	Soil	¹³ C-OCDD	20.22	40 - 135 %
99274102	Soil	¹³ C-2,3,7,8-TCDF	38.96	40 - 135 %
99274102	Soil	¹³ C-1,2,3,7,8-PeCDF	36.68	40 - 135 %
99274102	Soil	¹³ C-1,2,3,4,6,7,8-HpCDF	25.36	40 - 135 %
99274109	Water	¹³ C-2,3,7,8-TCDD	19.95	25 - 164 %
99274109	Water	¹³ C-1,2,3,7,8-PeCDD	16.96	25 - 181 %
99274109	Water	¹³ C-1,2,3,4,7,8-HxCDD	18.49	32 - 141 %
99274109	Water	¹³ C-1,2,3,6,7,8-HxCDD	21.14	28 - 130 %
99274109	Water	¹³ C-1,2,3,4,6,7,8-HpCDD	21.71	23 - 140 %
99274109	Water	¹³ C-OCDD	17.82	17 - 157 %
99274109	Water	¹³ C-2,3,7,8-TCDF	13.84	24 - 169 %
99274109	Water	¹³ C-1,2,3,7,8-PeCDF	17.21	24 - 185 %
99274109	Water	¹³ C-2,3,4,7,8-PeCDF	13.84	21 - 178 %
99274109	Water	¹³ C-1,2,3,4,7,8-HxCDF	19.95	26 - 152 %
99274109	Water	¹³ C-1,2,3,7,8,9-HxCDF	20.31	26 - 123 %
99274109	Water	¹³ C-2,3,4,6,7,8-HxCDF	20.88	29 - 147 %

II Instrument Performance: Acceptable.

A performance check solution was analyzed at the beginning of each 12-hour sample analysis period. The minimum resolving power of 10,000 was attained. The valley between 2,3,7,8-TCDD and the peaks representing all other TCDD isomers was $\leq 25\%$ in the window defining mix solution. All ion abundance and retention time criteria were met in all calibration standards.

III Calibration

A. Initial Calibration: Acceptable.

A 5-point initial calibration was performed with all Relative Standard Deviations (RSDs) less than 20 % for the unlabeled target analytes and less than 30 % for the labeled internal standards. All ion abundance ratios, signal-to-noise (s/n) ratios, and retention times were within method QC limits.

B. Continuing Calibration: Acceptable.

A continuing calibration was analyzed at the start of each 12-hour period. The % valley between 2,3,7,8-TCDD and the closest TCDF isomer was less than 25 %. The retention times for all of the furan and dioxin homologues were established and properly labeled from the first to the last eluters. All ion abundance and s/n ratios were within method QC limits. All % difference (%D) values were less than 30 % for the labeled internal standards and less than 20 % for the unlabeled target analytes, except for the following:

DATE	TIME	MATRIX	COMPOUND	%D	ASSOCIATED SAMPLES
7/19/99	2212	Soil	¹³ C-OCDD (IS)	33.12	*
7/23/99	2000	Soil	2,3,7,8-TCDF	24.50	99274114
7/30/99	2211	Soil	2,3,7,8-TCDF	21.50	99274110RE

CONC. = Concentration.

OCDD = Octachlorodibenzodioxin.

TCDF = Tetrachlorodibenzofuran.

* Samples 99274102 through 99274106.

The quantitation limit for 2,3,7,8-TCDD in the samples 99274114 were qualified as estimated (UJ). No action was taken for the internal standard (IS) %D value outlier or for the 2,3,7,8-TCDF %D outlier in sample 99274110RE.

IV Blanks: Satisfactory.

The frequency of analysis of laboratory blanks was met. No target analytes were detected in any blanks, except for the following:

BLANK ID	MATRIX	COMPOUND	CONC.	ASSOCIATED SAMPLES
DBLK1	Soil	OCDD	1.461 ng/kg	*
DBLK2	Soil	OCDD	1.550 ng/kg	**



ecology and environment, inc.


International Specialists in the Environment


1500 First Interstate Center, 999 Third Avenue
Seattle, Washington 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: September 1, 1999

TO: Mark Woodke, START-Project Manager, Seattle, WA

FROM: David A. Ikeda, Chemist, E & E, Seattle, WA 

THRU: Leatta Dahlhoff, Chemist, E & E, Seattle, WA 

SUBJ: Organic Data Quality Assurance Review, Wenatchee Brownfields Site,
Wenatchee, Washington

REF: TDD: 98-11-0007 PAN: CK-07-01-SI-DM

The data quality assurance review of three water samples and twelve soil samples collected from the Wenatchee Brownfields site located in Wenatchee, Washington, has been completed. Analysis for Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) following EPA Method 8290 for soil samples and EPA Method 1613B for water samples were performed by Southwest Laboratory of Oklahoma, Broken Arrow, Oklahoma.

The samples were numbered:

Soil:	99274102	99274103	99274104	99274105	99274106
	99274107	99274108	99274110	99274111	99274113
	99274115	99274116			
Water:	99274109	99274114	99274117		

Data Qualifications:

I Holding Time: Acceptable.

The samples were maintained at 9°C, which is slightly higher than the required 4°C ($\pm 2^\circ\text{C}$), however due to the stable nature of the analytes, no qualifications were applied to the samples by the reviewer. The samples were collected June 29 and 30, 1999, extracted by July 21, 1999, and analyzed by July 29, 1999, therefore meeting QC criteria of less than 30 days for soil samples and 7 days for water samples between collection and extraction and less than 45 days for soil samples and 40 days for water samples between extraction and analysis.

**Note: This page is
intentionally left blank.**

Trip Blanks

Trip blanks met the frequency criteria. The following contaminants were detected in the trip blanks: methylene chloride, acetone, chloroform, bromodichloromethane, and dibromochloromethane. Sample results less than 10 times the associated trip blank contaminant concentrations were qualified as not detected (U).

Rinsate Blanks

Rinsate blanks met the frequency criteria. The following contaminants were detected in the rinsate blanks:

Inorganics:	antimony, cadmium, chromium, lead, manganese, nickel, thallium, and zinc; and
VOCs:	acetone.

In order to attain the level of contamination detected in the rinsate blanks, gross contamination would need to be present on the field or laboratory equipment. Several of the contaminants detected in the rinsates also were present in the laboratory blanks and may be associated with laboratory contamination. Additionally, the rinsate water, obtained from the Wenatchee PWD, may have been contaminated. Sample results for the above-listed analytes should be viewed with caution.

Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. Data produced for this site followed applicable field sampling techniques and specific analytical methodology. The DQO for comparability of 90 percent was met.

LABORATORY QUALITY ASSURANCE/QUALITY CONTROL PARAMETERS

The laboratory data also were reviewed for holding times, laboratory blank samples, trip blank samples, and rinsate blank samples. These QA/QC parameters are summarized below. In general, the laboratory and field QA/QC parameters were considered acceptable.

Holding Times

Approximately 6.3 percent of the data were qualified as estimated quantities (J or UJ) based on holding time QC outliers.

Laboratory Blanks

All laboratory blanks met the frequency criteria. The following contaminants of concern were detected in the laboratory blanks:

Inorganics:	barium, manganese, and selenium;
PCDDs/PCDFs:	1,2,3,4,6,7,8-HpCDD, and OCDD;
CL Pesticides:	4,4'-DDD, 4,4'-DDE, 4,4'-DDT, endrin, alpha-BHC, beta-BHC, heptachlor, aldrin, heptachlor epoxide, endrin aldehyde, gamma-chlordane, and methoxychlor;
SVOCs:	phenol, bis(2-ethylhexyl)phthalate, and di-n-butylphthalate; and
VOCs:	acetone, methylene chloride, 4-methyl-2-pentanone, 2-hexanone, and 2-butanone.

Any associated sample result less than five times the blank contamination (10 times for common laboratory contaminants) was qualified as not detected (U). See the data QA memoranda (Appendix C) for sample results that were qualified based on blank contamination.

Precision

Precision measures the reproducibility of the sampling and analytical methods. Laboratory and field precision is defined as the relative percent difference (RPD) between duplicate sample analyses. The laboratory duplicate samples or MS/MSD samples measure the precision of the analytical method.

The RPD values were reviewed for all laboratory analyses. Approximately 1 percent of the sample results were qualified as estimated quantities (J) based on duplicate RPD QC outliers. Overall, the project DQO for accuracy of 90 percent was met.

Accuracy

Accuracy measures the reproducibility of the sampling and analytical methodology. Laboratory accuracy is defined as the surrogate spike percent recovery (%R) for each VOC, SVOC, CL Pesticide/PCB, or PCDD/PCDF analysis or the matrix spike %Rs. The surrogate %R values were reviewed for all appropriate sample analyses. Approximately 0.8 percent of the sample results were rejected (R) based on surrogate QC outliers.

The matrix spike %R values were reviewed for all MS and MSD analyses. Approximately 0.7 percent of the data were qualified as estimated (J or UJ), and approximately 0.2 percent of the data were rejected (R) based on MS/MSD recoveries. Overall, the project DQO for accuracy of 90 percent was met.

Completeness

Data completeness is defined as the percentage of usable data (usable data divided by the total possible data). All laboratory data were reviewed for data validation and usability. Approximately 99.8 percent of the Wenatchee Landfill TBA data were determined to be usable, therefore, the project DQO for completeness of 90 percent was met. Samples were not collected from Riverfront Park seeps because no seeps were found during the TBA.

Representativeness

Data representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or environmental condition. The number and selection of samples were determined in the field to account accurately for site variations and sample matrices. The DQO for representativeness of 90 percent was met.

Program Statement of Work for Organic Analyses (EPA 1991b), and all PCDD/PCDF analyses were performed by Southwest Laboratory of Oklahoma, Broken Arrow, Oklahoma, a commercial laboratory, following EPA SW-846 Method 8290.

Data qualifiers were applied as necessary according to the following guidance documents:

- *Region 10 SOP for the Validation of Polychlorinated Dibenzo-dioxin (PCDD) and Polychlorinated Dibenzo-furan (PCDF) Data* (EPA 1996a);
- *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA 1994b); and
- *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (EPA 1994c).

In the absence of other QC guidance, laboratory- and/or method-specific QC limits also were utilized to apply qualifiers to the data. Copies of the data QA memoranda are included in Appendix C.

SATISFACTION OF DATA QUALITY OBJECTIVES

The following EPA (1993) guidance document was used to establish data quality objectives (DQOs) for this TBA:

- *Data Quality Objectives Process for Superfund, Interim Final Guidance*, EPA 540-R-93-071.

The EPA TM determined that the definitive data without error and bias determination criteria would be used for the sampling and analyses conducted during the field activities. The data quality achieved during the fieldwork produced sufficient data that met the DQOs in the SQAP (E & E 1999).

A discussion of the objectives that were accomplished is presented in the following sections.

PROJECT-SPECIFIC DATA QUALITY OBJECTIVES

The laboratory data were reviewed to ensure that DQOs for the project were met. The following describe the laboratories' ability to meet project DQOs for precision, accuracy, and completeness and the field team's ability to meet project DQOs for representativeness and comparability. The laboratories and the field team were able to meet the DQOs for the project.

DISCUSSION OF QUALITY ASSURANCE/QUALITY CONTROL

QA/quality control (QC) data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of sampling equipment, glassware, and reagents. Specific QC requirements for laboratory analyses are incorporated in the analytical methods performed by the laboratory. Additional QC requirements are provided in the EPA *Contract Laboratory Program Statement of Work for Inorganic Analyses* (EPA 1991a) and EPA *Contract Laboratory Program Statement of Work for Organic Analyses* (EPA 1991b). These QC requirements or equivalent requirements were followed for analytical work in the Wenatchee Landfill TBA.

QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

A minimum of one matrix spike (MS)/matrix spike duplicate (MSD) sample for VOC, SVOC, CL Pesticide/PCB, and PCDD/PCDF analyses, and one MS/duplicate (DUP) for inorganic analyses, were designated per 20 samples collected for each matrix sample during the project.

Eight trip blank samples (at a rate of one trip blank per cooler of VOC samples) were shipped to the laboratories. Three rinsate samples (at a rate of one per 20 samples collected from each piece of nondedicated sampling equipment) from the decontaminated Geoprobe™ rods with acetate liners were submitted for the project. Detected analytes in the trip blank and rinsate blank samples are included in the QA/QC samples analytical results summary table at the end of this Appendix.

The laboratories analyzed several QC samples for QA purposes according to EPA methods. The analyzed QC samples included initial and continuing calibrations, trip and method blanks, MSs, DUPs, and laboratory control samples.

DATA VALIDATION

EPA chemists reviewed and validated data from analyses performed by Contract Laboratory Program (CLP) laboratories. These analyses consisted of VOCs, SVOCs, CL Pesticide/PCBs, and TAL metals. START chemists validated PCDD/PCDF data from the START-subcontracted laboratory and performed a validation check on the EPA-generated QA memoranda.

All samples were collected following the guidance of the SQAP (E & E 1999) for the field activities. All inorganic analyses were performed by a CLP laboratory following the EPA *Contract Laboratory Program Statement of Work for Inorganic Analyses* (EPA 1991a), all VOC, SVOC, and CL Pesticide/PCB analyses were performed by CLP laboratories following the EPA *Contract Laboratory*

APPENDIX B
SAMPLE PLAN ALTERATION FORM

SAMPLE PLAN ALTERATION FORM

Project Name and Number: Wenatchee Landfill Targeted Brownfield Assessment TDD 98-11-0007

Material to be Sampled: Groundwater seeps

Measurement Parameters: Volatile Organic Compounds, Semivolatile Organic Compounds, Chlorinated Pesticides/Polychlorinated Biphenyls, Target Analyte List Metals, polychlorinated dibenzo-dioxins and polychlorinated dibenzo-furans

Standard Procedure for Field Collection & Laboratory Analysis (cite references): EPA SW-846
(laboratory analyses)

Reason for Change in Field Procedure or Analytical Variation: Seeps were not located.

Variation from Field or Analytical Procedure: Not applicable

Special Equipment, Materials, or Personnel Required: None

CONTACT	APPROVED SIGNATURE	DATE
Initiator:		
START PL:		
EPA TM:		
EPA QA Officer:		

APPENDIX C
QUALITY ASSURANCE/QUALITY CONTROL INFORMATION
AND DATA VALIDATION MEMORANDA

VIII Matrix Spike/Matrix Spike Duplicates: Satisfactory.

Matrix spike percent spike recovery (%R) values were within QC limits, except for the following:

SAMPLE ID	MATRIX	ANALYTE	%R	QC LIMITS
99274102MS	Soil	OCDD	44.1	50 - 150 %
99274102MSD	Soil	OCDD	20.2	50 - 150 %

OCDD = Octachlorodibenzodioxin.

The result for OCDD was flagged as estimated (J) in sample 99274102.

The relative percent difference (RPD) values between the matrix spike and matrix spike duplicate were within QC limits, except:

SAMPLE ID	MATRIX	ANALYTE	RPD	QC LIMITS
99274102	Soil	OCDD	74.3	50

OCDD = Octachlorodibenzodioxin.

The sample result for OCDD was flagged as estimated (J) in sample 99284102.

IX Analytical Sequence: Acceptable.

All of the standards, blanks, samples and QC samples were analyzed in accordance with the method-specified analytical sequence.

X Laboratory Control Sample (LCS) Analyses: Acceptable.

A spiked blank was extracted and analyzed with each sample delivery group (SDG). The recoveries for the target compounds and internal standards for the LCS met the acceptance criteria. None of the data were qualified on this basis.

XI Compound Identification: Acceptable.

For analytes with isotopically labeled standards, the retention times of the sample quantitation ions maximized within -1 to +3 seconds of the isotopically labeled standard ions. Several samples had ratios for the quantitation ion integrated ion currents outside the method QC limits, the laboratory qualified these sample results as estimated maximum possible concentrations (X or I). The reviewer changed the laboratory qualifiers "X" and "I" to "J" (estimated).

XII Compound Quantitation and Detection Limits: Acceptable.

All of the samples were analyzed at the project required quantitation limits. Some of the totals reported were corrected by the reviewer due to adjustments that had to be made because of contamination in a blank or miscalculations. All of the compounds were calculated off the primary column, DB5, except for TCDF, which was calculated from a second column. All of the detected target compounds were within the linear calibration range.

XIII Laboratory Contact: Required

The laboratory was contacted on August 31, 1999, for a discrepancy with the MS and MSD summary form for 99274109. The laboratory accidentally submitted an additional MS/MSD recovery form with the wrong results, the correct forms were in the data package and the percent recovery values were verified.

XIV Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in EPA Method 8290 and the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures" (EPA/540/G-90/004). Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- U -** The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- J -** The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits or because quality control criteria limits were not met.
- UJ -** The material was analyzed for, but not detected. The reported detection limit is estimated because Quality Control criteria were not met.

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274102

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.01

Client Name: E&E-WA Sample Wt/Vol: 12.14 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date:

Sample Receipt Date: 07-02-99 Instrument ID: AutoSpec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0 Sample Data Filename: A105197#7

Analysis Date: 19-JUL-99 Time: 19:45:51 Blank Data Filename: A105197#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105197#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 6.9

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.306	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.530	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.581	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.391	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.449	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	17.823	1.421	U	1.04	1.000	1.14
OCDD	178.019	1.126	U	0.92	1.000	1.11
2,3,7,8-TCDF	*	0.224	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.532	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.538	U	*	*	0.97
1,2,3,4,7,8-HxCDF	2.749	0.743	U	1.02	1.000	1.03
1,2,3,6,7,8-HxCDF	*	0.557	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.882	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.652	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	3.854	1.261	U	0.83	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	1.776	U	*	*	1.02
OCDF	5.307	1.674		0.88	1.003	1.21
Total Tetra-Dioxins	*	0.306	U			
Total Penta-Dioxins	*	0.530	U			
Total Hexa-Dioxins	*	0.391	U			
Total Hepta-Dioxins	35.374	1.421				
Total Tetra-Furans	9.588	0.224				
Total Penta-Furans	42.658	0.538				
Total Hexa-Furans	12.964	0.557				
Total Hepta-Furans	*	1.261	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

9/3/99

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274102

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39261
Client Name: E&E-WA Lab Sample ID: 39261.01
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 12.14 g or mL: g
Sample Receipt Date: 07-02-99 Initial Calibration Date:
Ext. Date: 07-06-99 Shift: Instrument ID: AutoSpec
Analysis Date: 19-JUL-99 Time: 19:45:51 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105197#7
Injection Volume(ul): 2.00 Blank Data Filename: A105197#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105197#1
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 6.9

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD *	X 0.1	*
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD 17.82	X 0.01	1.78e-01
OCDD 178.02	X 0.001	1.78e-01
2,3,7,8-TCDF *	X 0.1	*
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF 2.75	X 0.1	2.75e-01
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF 3.85	X 0.01	3.85e-02
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF 5.31	X 0.001	5.31e-03
		6.75e-01
		*Total: 2.106e+00

9/3/99

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274103

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.02

Client Name: E&E-WA Sample Wt/Vol: 13.37 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date:

Sample Receipt Date: 07-02-99 Instrument ID: AutoSpec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0 Sample Data Filename: A105197#3

Analysis Date: 19-JUL-99 Time: 16:30:42 Blank Data Filename: A105197#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105197#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 17.35

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	1.119	0.201	S	0.98	1.002	1.48
1,2,3,7,8-PeCDD	1.027	0.323	S	2.91	1.000	1.11
1,2,3,4,7,8-HxCDD	3.754	0.576	S	5.36	0.998	0.74
1,2,3,6,7,8-HxCDD	1.329	0.388	S	0.87	1.001	1.10
1,2,3,7,8,9-HxCDD	*	0.181	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	55.530	1.219		1.06	1.001	1.14
OCDD	756.461	0.444		0.89	1.000	1.11
2,3,7,8-TCDF	REFER TO SECOND COLUMN 1.477	0.199	U	0.74	1.002	1.15
1,2,3,7,8-PeCDF	*	0.367	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.372	U	*	*	0.97
1,2,3,4,7,8-HxCDF	4.377	0.235	S	1.25	1.001	1.03
1,2,3,6,7,8-HxCDF	*	0.176	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.279	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.206	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	11.487	0.493		1.02	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.694	U	*	*	1.02
OCDF	23.689	0.616		0.85	1.003	1.21
Total Tetra-Dioxins	*	0.201	U			
Total Penta-Dioxins	*	0.323	U			
Total Hexa-Dioxins	*	0.388	U			
Total Hepta-Dioxins	111.317	1.219				
Total Tetra-Furans	12.054	0.199				
Total Penta-Furans	34.134	0.372				
Total Hexa-Furans	20.204	0.176				
Total Hepta-Furans	11.487	0.493				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

11
9/3/99

USEPA - ITD

AATS/SWOK, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID

99274103

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.02

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 13.37 g or mL: g

Sample Receipt Date: 07/02/99

Initial Calibration Date: 05/13/99

Ext. Date: 07/06/99

Instrument ID: 70S

Analysis Date: 20-JUL-99 Time: 19:04:45

GC Column ID: SP2331

Extract Volume (uL): 20.0

Sample Data Filename: S104227#14

Injection Volume (uL): 2.0

Blank Data Filename: S104227#13

Dilution Factor: 1

Cal. Ver. Data Filename: S104227#12

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 17.35

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	EMPC	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDF	*	0.7219	*	*	*
INT. STANDARD	SPIKE CONCENTRATION	CONCENT. FOUND	RECOV. %	ION ABUND. RATIO (2)	RRT (1)
13C-2,3,7,8-TCDF	1000	618.75	61.87	0.76	1.16
CLEANUP STANDARD					
37C1-2,3,7,8-TCDD	800	432.64	54.08		0.99

NOTE: Concentrations, EMPCs, and EDL are calculated on a dry weight basis.

TCDDF1I

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274103

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39261
Client Name: E&E-WA Lab Sample ID: 39261.02
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 13.37 g or mL: g
Sample Receipt Date: 07-02-99 Initial Calibration Date:
Ext. Date: 07-06-99 Shift: Instrument ID: AutoSpec
Analysis Date: 19-JUL-99 Time: 16:30:42 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105197#3
Injection Volume(ul): 2.00 Blank Data Filename: A105197#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105197#1
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 17.35

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	1.12	X 1.0	1.12e+00
1,2,3,7,8-PeCDD	1.03	X 0.5	5.13e-01
1,2,3,4,7,8-HxCDD	3.75	X 0.1	3.75e-01
1,2,3,6,7,8-HxCDD	1.33	X 0.1	1.33e-01
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	55.53	X 0.01	5.55e-01
OCDD	756.46	X 0.001	7.56e-01
2,3,7,8-TCDF	ND 1.48	X 0.1	1.48e-01
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	4.38	X 0.1	4.38e-01
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	11.49	X 0.01	1.15e-01
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	23.69	X 0.001	2.37e-02
			96/99
*Total:			7.812e+00
			4.03e+00

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989).'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274104

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.03

Client Name: E&E-WA

Sample Wt/Vol: 13.05 g or mL: g

Matrix (aqueous/solid/leachate): solid

Initial Calibration Date:

Sample Receipt Date: 07-02-99

Instrument ID: AutoSpec

Ext. Date: 07-06-99

GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0

Sample Data Filename: A105197#4

Analysis Date: 19-JUL-99 Time: 17:19:29

Blank Data Filename: A105197#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105197#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 16.36

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.251	U	*	*	1.48
1,2,3,7,8-PeCDD	*	1.975	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	1.183	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.797	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.913	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	17.605	0.338		1.08	1.000	1.14
OCDD	269.807	0.249		0.88	1.000	1.11
2,3,7,8-TCDF	4.179	0.267	C	0.80	1.002	1.15
1,2,3,7,8-PeCDF	*	0.202	U	*	*	0.98
2,3,4,7,8-PeCDF	1.693	0.204		1.67	1.030	0.97
1,2,3,4,7,8-HxCDF	13.473	0.753	J	1.19	1.001	1.03
1,2,3,6,7,8-HxCDF	*	0.565	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.894	U	*	*	0.87
2,3,4,6,7,8-HxCDF	1.044	0.660		1.09	1.019	1.18
1,2,3,4,6,7,8-HpCDF	12.375	0.857		1.06	1.000	1.44
1,2,3,4,7,8,9-HpCDF	1.629	1.207	J	0.84	1.035	1.02
OCDF	30.361	0.344		0.82	1.003	1.21
Total Tetra-Dioxins	1.104	0.251				
Total Penta-Dioxins	*	1.975	U			
Total Hexa-Dioxins	*	0.797	U			
Total Hepta-Dioxins	34.743	0.338				
Total Tetra-Furans	35.948	0.267				
Total Penta-Furans	23.230	0.204				
Total Hexa-Furans	14.984	0.565				
Total Hepta-Furans	12.375	0.857				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

11
1/3/99

AATS/SWOK, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID

99274104

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.03

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 13.05 g or mL: g

Sample Receipt Date: 07/02/99

Initial Calibration Date: 05/13/99

Ext. Date: 07/06/99

Instrument ID: 70S

Analysis Date: 20-JUL-99 Time: 19:41:37

GC Column ID: SP2331

Extract Volume (uL): 20.0

Sample Data Filename: S104227#15

Injection Volume (uL): 2.0

Blank Data Filename: S104227#13

Dilution Factor: 1

Cal. Ver. Data Filename: S104227#12

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 16.36

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	EMPC	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDF	1.705	0.1302	-	0.79	1.001
INT. STANDARD	SPIKE CONCENTRATION	CONCENT. FOUND	RECOV. %	ION ABUND. RATIO (2)	RRT (1)
13C-2,3,7,8-TCDF	1000	687.73	68.77	0.75	1.16
CLEANUP STANDARD					
37C1-2,3,7,8-TCDF	800	570.66	71.33		0.99

NOTE: Concentrations, EMPCs, and EDL are calculated on a dry weight basis.

TCDDF11

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

99274104

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.03

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 13.05 g or mL: g

Sample Receipt Date: 07-02-99

Initial Calibration Date:

Ext. Date: 07-06-99 Shift:

Instrument ID: AutoSpec

Analysis Date: 19-JUL-99 Time: 17:19:29

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105197#4

Injection Volume(ul): 2.00

Blank Data Filename: A105197#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105197#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 16.36

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	X 1.0	*
1,2,3,7,8-PeCDD	X 0.5	*
1,2,3,4,7,8-HxCDD	X 0.1	*
1,2,3,6,7,8-HxCDD	X 0.1	*
1,2,3,7,8,9-HxCDD	X 0.1	*
1,2,3,4,6,7,8-HpCDD	X 0.01	1.76e-01
OCDD	X 0.001	2.70e-01
2,3,7,8-TCDF	X 0.1	4.18e-01
1,2,3,7,8-PeCDF	X 0.05	*
2,3,4,7,8-PeCDF	X 0.5	8.47e-01
1,2,3,4,7,8-HxCDF	X 0.1	1.35e+00
1,2,3,6,7,8-HxCDF	X 0.1	*
1,2,3,7,8,9-HxCDF	X 0.1	*
2,3,4,6,7,8-HxCDF	X 0.1	1.04e-01
1,2,3,4,6,7,8-HpCDF	X 0.01	1.24e-01
1,2,3,4,7,8,9-HpCDF	X 0.01	1.63e-02
OCDF	X 0.001	3.04e-02
*Total: 9.179e+00		3.09e+00

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274105

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.04

Client Name: E&E-WA Sample Wt/Vol: 12.94 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date:

Sample Receipt Date: 07-02-99 Instrument ID: AutoSpec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0 Sample Data Filename: A105197#5

Analysis Date: 19-JUL-99 Time: 18:08:17 Blank Data Filename: A105197#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105197#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.47

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.144	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.243	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.273	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.184	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.211	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	8.273	0.173		1.09	1.000	1.14
OCDD	79.196	0.293		0.94	1.000	1.11
2,3,7,8-TCDF	REFER TO THE SECOND COLUMN 0.467	0.197	C @ 9/1/99	0.84	1.001	1.15
1,2,3,7,8-PeCDF	*	0.207	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.209	U	*	*	0.97
1,2,3,4,7,8-HxCDF	2.354	0.615	J	1.16	1.001	1.03
1,2,3,6,7,8-HxCDF	*	0.461	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.730	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.539	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	2.586	0.194		1.13	1.001	1.44
1,2,3,4,7,8,9-HpCDF	*	0.274	U	*	*	1.02
OCDF	3.743	0.273		0.81	1.004	1.21
Total Tetra-Dioxins	*	0.144	U			
Total Penta-Dioxins	*	0.243	U			
Total Hexa-Dioxins	1.532	0.184				
Total Hepta-Dioxins	16.707	0.173				
Total Tetra-Furans	5.018	0.197				
Total Penta-Furans	24.380	0.209				
Total Hexa-Furans	9.990	0.461				
Total Hepta-Furans	2.586	0.194				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

USEPA - ITD

Page 5 of 7

AATS/SWOK, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID

99274105

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.04

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 12.94 g or mL: g

Sample Receipt Date: 07/02/99

Initial Calibration Date: 05/13/99

Ext. Date: 07/06/99

Instrument ID: 70S

Analysis Date: 20-JUL-99 Time: 20:18:30

GC Column ID: SP2331

Extract Volume (uL): 20.0

Sample Data Filename: S104227#16

Injection Volume (uL): 2.0

Blank Data Filename: S104227#13

Dilution Factor: 1

Cal. Ver. Data Filename: S104227#12

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.47

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	EMPC	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDF	0.499	0.1857	-	0.83	1.001
INT. STANDARD	SPIKE CONCENTRATION	CONCENT. FOUND	RECOV. %	ION ABUND. RATIO (2)	RRT (1)
13C-2,3,7,8-TCDF	1000	673.86	67.39	0.75	1.16
CLEANUP STANDARD					
37C1-2,3,7,8-TCDD	800	544.60	68.08		0.99

NOTE: Concentrations, EMPCs, and EDL are calculated on a dry weight basis.

TCDDF11

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274105

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39261
Client Name: E&E-WA Lab Sample ID: 39261.04
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 12.94 g or mL: g
Sample Receipt Date: 07-02-99 Initial Calibration Date:
Ext. Date: 07-06-99 Shift: Instrument ID: AutoSpec
Analysis Date: 19-JUL-99 Time: 18:08:17 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105197#5
Injection Volume(ul): 2.00 Blank Data Filename: A105197#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105197#1
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.47

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	8.27	X 0.01	8.27e-02
OCDD	79.20	X 0.001	7.92e-02
2,3,7,8-TCDF	0.499 8.47	X 0.1	4.67e-02
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	2.35	X 0.1	2.35e-01
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	2.59	X 0.01	2.59e-02
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	3.74	X 0.001	3.74e-03
			0.499 x 10 ⁻²
			*Total: 2.165e+00
			4.26 e 01

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update(EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274106

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.05

Client Name: E&E-WA

Sample Wt/Vol: 11.76 g or mL: g

Matrix (aqueous/solid/leachate): solid

Initial Calibration Date:

Sample Receipt Date: 07-02-99

Instrument ID: AutoSpec

Ext. Date: 07-06-99

GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0

Sample Data Filename: A105197#6

Analysis Date: 19-JUL-99 Time: 18:57:04

Blank Data Filename: A105197#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105197#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 5.59

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	0.388	0.228	J	0.58	1.001	1.48
1,2,3,7,8-PeCDD	*	0.398	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.290	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.195	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.224	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	6.546	0.483		1.07	1.000	1.14
OCDD	71.891	0.411		0.88	1.000	1.11
2,3,7,8-TCDF	REFER TO THE SECOND COLUMN 0.876	0.173	C	0.88	1.002	1.15
1,2,3,7,8-PeCDF	*	0.213	U	*	*	0.98
2,3,4,7,8-PeCDF	0.301	0.215	J	1.07	1.031	0.97
1,2,3,4,7,8-HxCDF	2.168	0.578	J	1.11	1.000	1.03
1,2,3,6,7,8-HxCDF	*	0.433	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.686	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.506	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	2.736	0.456	U	1.25	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.642	U	*	*	1.02
OCDF	4.122	0.669		0.81	1.003	1.21
Total Tetra-Dioxins	*	0.228	U			
Total Penta-Dioxins	*	0.398	U			
Total Hexa-Dioxins	*	0.195	U			
Total Hepta-Dioxins	12.009	0.483				
Total Tetra-Furans	5.765	0.173				
Total Penta-Furans	22.948	0.215				
Total Hexa-Furans	7.744	0.433				
Total Hepta-Furans	*	0.456	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

USEPA - ITD

Page 6 of 7

AATS/SWOK, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID
99274106

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.05

Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 11.76 g or mL: g

Sample Receipt Date: 07/02/99

Initial Calibration Date: 05/13/99

Ext. Date: 07/06/99

Instrument ID: 70S

Analysis Date: 20-JUL-99 Time: 20:55:21

GC Column ID: SP2331

Extract Volume (uL): 20.0

Sample Data Filename: S104227#17

Injection Volume (uL): 2.0

Blank Data Filename: S104227#13

Dilution Factor: 1

Cal. Ver. Data Filename: S104227#12

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 5.59

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	EMPC	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDF	*	0.3798	*	*	*
INT. STANDARD	SPIKE CONCENTRATION	CONCENT. FOUND	RECOV. %	ION ABUND. RATIO (2)	RRT (1)
13C-2,3,7,8-TCDF	1000	660.91	66.09	0.75	1.16
CLEANUP STANDARD					
37C1-2,3,7,8-TCDD	800	404.39	50.55		0.99

NOTE: Concentrations, EMPCs, and EDL are calculated on a dry weight basis.

TCDDF11

9/8/99

132

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274106

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.05

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 11.76 g or mL: g

Sample Receipt Date: 07-02-99

Initial Calibration Date:

Ext. Date: 07-06-99 Shift:

Instrument ID: AutoSpec

Analysis Date: 19-JUL-99 Time: 18:57:04

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105197#6

Injection Volume(ul): 2.00

Blank Data Filename: A105197#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105197#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 5.59

	CONCENTRATION	TEF (1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0.39	X 1.0	3.88e-01
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	6.55	X 0.01	6.55e-02
OCDD	71.89	X 0.001	7.19e-02
2,3,7,8-TCDF	ND 0.88	X 0.1	ND 8.76e-02
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	0.30	X 0.5	1.51e-01
1,2,3,4,7,8-HxCDF	2.17	X 0.1	2.17e-01
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	2.74	X 0.01	2.74e-02
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	4.12	X 0.001	4.12e-03
			9.24e-01
			*Total: 2.330e+00
			9.24e-01

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989).'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.

99274107

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.06

Client Name: E&E-WA Sample Wt/Vol: 14.17 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-02-99 Instrument ID: AutoSpec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0 Sample Data Filename: A105201#3

Analysis Date: 20-JUL-99 Time: 12:31:06 Blank Data Filename: A105201#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105201#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 20.68

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.322	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.775	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.471	U	*	*	0.74
1,2,3,6,7,8-HxCDD	1.713	0.317		1.34	1.001	1.10
1,2,3,7,8,9-HxCDD	0.870	0.364		1.19	1.009	0.96
1,2,3,4,6,7,8-HpCDD	67.457	0.799		1.02	1.000	1.14
OCDD	827.747	0.318		0.94	1.000	1.11
2,3,7,8-TCDF	REFER TO THE 5.167	0.280	CX	0.72	1.002	1.15
1,2,3,7,8-PeCDF	SECOND COLUMN *	0.240	U	*	*	0.98
2,3,4,7,8-PeCDF	1.851	0.242	J	1.29	1.030	0.97
1,2,3,4,7,8-HxCDF	8.953	0.478	J	1.22	1.001	1.03
1,2,3,6,7,8-HxCDF	1.055	0.358	J	1.03	1.003	1.38
1,2,3,7,8,9-HxCDF	*	0.567	U	*	*	0.87
2,3,4,6,7,8-HxCDF	1.361	0.419		1.09	1.019	1.18
1,2,3,4,6,7,8-HpCDF	20.229	0.251		1.01	1.000	1.44
1,2,3,4,7,8,9-HpCDF	1.393	0.354		1.07	1.036	1.02
OCDF	53.484	0.412		0.86	1.003	1.21
Total Tetra-Dioxins	*	0.322	U			
Total Penta-Dioxins	*	0.775	U			
Total Hexa-Dioxins	5.076	0.317				
Total Hepta-Dioxins	144.567	0.799				
Total Tetra-Furans	37.398	0.280				
Total Penta-Furans	29.296	0.242				
Total Hexa-Furans	26.723	0.358				
Total Hepta-Furans	21.622	0.251				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

9/3/99

USEPA - ITD

Page 4 of 16

AATS/SWOK, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID

99274107

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261:06

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 14.17 g or mL: g

Sample Receipt Date: 07/02/99

Initial Calibration Date: 05/13/99

Ext. Date: 07/06/99

Instrument ID: 70S

Analysis Date: 21-JUL-99 Time: 14:07:37

GC Column ID: SP2331

Extract Volume (uL): 20.0

Sample Data Filename: S104230#5

Injection Volume (uL): 2.0

Blank Data Filename: S104227#13

Dilution Factor: 1

Cal. Ver. Data Filename: S104230#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 20.68

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	EMPC	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDF	1.880	1.0305	-	0.84	1.001
INT. STANDARD	SPIKE CONCENTRATION	CONCENT. FOUND	RECOV. %	ION ABUND. RATIO (2)	RRT (1)
13C-2,3,7,8-TCDF	1000	607.44	60.74	0.77	1.16
CLEANUP STANDARD					
37Cl-2,3,7,8-TCDD	800	563.95	70.49		0.99

NOTE: Concentrations, EMPCs, and EDL are calculated on a dry weight basis.

TCDDF1I

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274107

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.06

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 14.17 g or mL: g

Sample Receipt Date: 07-02-99

Initial Calibration Date: 07-01-99

Ext. Date: 07-06-99 Shift:

Instrument ID: AutoSpec

Analysis Date: 20-JUL-99 Time: 12:31:06

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105201#3

Injection Volume(ul): 2.00

Blank Data Filename: A105201#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105201#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 20.68

	CONCENTRATION	TEF (1)	TEF-ADJUSTED CONCENTRATION	
2,3,7,8-TCDD	*	X 1.0	*	
1,2,3,7,8-PeCDD	*	X 0.5	*	
1,2,3,4,7,8-HxCDD	*	X 0.1	*	
1,2,3,6,7,8-HxCDD	1.71	X 0.1	1.71e-01	
1,2,3,7,8,9-HxCDD	0.87	X 0.1	8.70e-02	
1,2,3,4,6,7,8-HpCDD	67.46	X 0.01	6.75e-01	
OCDD	827.75	X 0.001	8.28e-01	
2,3,7,8-TCDF	1.8% 5.17	X 0.1	5.17e-01	0.182
1,2,3,7,8-PeCDF	*	X 0.05	*	
2,3,4,7,8-PeCDF	1.85	X 0.5	9.26e-01	
1,2,3,4,7,8-HxCDF	8.95	X 0.1	8.95e-01	
1,2,3,6,7,8-HxCDF	1.06	X 0.1	1.06e-01	
1,2,3,7,8,9-HxCDF	*	X 0.1	*	
2,3,4,6,7,8-HxCDF	1.36	X 0.1	1.36e-01	
1,2,3,4,6,7,8-HpCDF	20.23	X 0.01	2.02e-01	
1,2,3,4,7,8,9-HpCDF	1.39	X 0.01	1.39e-02	
OCDF	53.48	X 0.001	5.35e-02	
			0.91391	
			*Total: 4.191e-01	
			4.20 e 00	

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274108

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.07

Client Name: E&E-WA Sample Wt/Vol: 16.50 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-02-99 Instrument ID: AutoSpec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0 Sample Data Filename: A105201#4

Analysis Date: 20-JUL-99 Time: 13:19:52 Blank Data Filename: A105201#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105201#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 25.45

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.097	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.180	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.200	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.135	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.155	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	0.374	0.149		1.15	1.001	1.14
OCDD	3.764	0.198	U	0.94	1.000	1.11
2,3,7,8-TCDF <i>See SECOND COLUMN FOR RESULTS</i>	0.209	0.130	U	0.59	1.002	1.15
1,2,3,7,8-PeCDF	*	0.092	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.093	U	*	*	0.97
1,2,3,4,7,8-HxCDF	*	0.091	U	*	*	1.03
1,2,3,6,7,8-HxCDF	*	0.068	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.108	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.080	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	*	0.095	U	*	*	1.44
1,2,3,4,7,8,9-HpCDF	*	0.133	U	*	*	1.02
OCDF	*	0.212	U	*	*	1.21
Total Tetra-Dioxins	*	0.097	U			
Total Penta-Dioxins	*	0.180	U			
Total Hexa-Dioxins	*	0.135	U			
Total Hepta-Dioxins	0.374	0.149				
Total Tetra-Furans	*	0.130	U			
Total Penta-Furans	*	0.093	U			
Total Hexa-Furans	*	0.068	U			
Total Hepta-Furans	*	0.095	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

USEPA - ITD

AATS/SWOK, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID

99274108

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261:07

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 16.50 g or mL: g

Sample Receipt Date: 07/02/99

Initial Calibration Date: 05/13/99

Ext. Date: 07/06/99

Instrument ID: 70S

Analysis Date: 21-JUL-99 Time: 14:44:28

GC Column ID: SP2331

Extract Volume (uL): 20.0

Sample Data Filename: S104230#6

Injection Volume (uL): 2.0

Blank Data Filename: S104227#13

Dilution Factor: 1

Cal. Ver. Data Filename: S104230#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 25.45

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	EMPC	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDF	0.414	0.1943	-	0.89	1.001
INT. STANDARD	SPIKE CONCENTRATION	CONCENT. FOUND	RECOV. %	ION ABUND. RATIO (2)	RRT (1)
13C-2,3,7,8-TCDF	1000	599.81	59.98	0.74	1.16
CLEANUP STANDARD					
37C1-2,3,7,8-TCDD	800	565.65	70.71		0.99

NOTE: Concentrations, EMPCs, and EDL are calculated on a dry weight basis.

TCDDF1I

11
7/13/99
186

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274108

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39261
Client Name: E&E-WA Lab Sample ID: 39261.07
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 16.50 g or mL: g
Sample Receipt Date: 07-02-99 Initial Calibration Date: 07-01-99
Ext. Date: 07-06-99 Shift: Instrument ID: AutoSpec
Analysis Date: 20-JUL-99 Time: 13:19:52 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105201#4
Injection Volume(ul): 2.00 Blank Data Filename: A105201#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105201#1
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 25.45

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD *	X 0.1	*
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD 0.37	X 0.01	3.74e-03
OCDD ND 2-76 0.137	X 0.001	0.63 2.76e-03 ND
2,3,7,8-TCDF 0.414 0.21 0.414	X 0.1	0.414 2.09e-02 0.0414
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF *	X 0.1	*
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF *	X 0.01	*
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF *	X 0.001	*

*Total: 2.843e-02
4.51e-02

(1) Taken from "Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.)"

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274109

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.08

Client Name: E&E-WA Sample Wt/Vol: 1000 g or mL: mL

Matrix (aqueous/solid/leachate): aqueous Initial Calibration Date: 07-22-99

Sample Receipt Date: 07-02-99 Instrument ID: AutoSpec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0 Sample Data Filename: A105209#10

Analysis Date: 22-JUL-99 Time: 18:25:23 Blank Data Filename: A105209#9

Dilution Factor: 1 Cal. Ver. Data Filename: A105209#1

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	11.861	U	*	*	1.37
1,2,3,7,8-PeCDD	*	6.310	U	*	*	1.17
1,2,3,4,7,8-HxCDD	*	6.240	U	*	*	1.10
1,2,3,6,7,8-HxCDD	*	5.834	U	*	*	0.99
1,2,3,7,8,9-HxCDD	*	5.708	U	*	*	1.09
1,2,3,4,6,7,8-HpCDD	45.793	6.505	U	1.07	1.000	1.21
OCDD	433.420	16.434	U	1.01	1.000	1.28
2,3,7,8-TCDF	*	13.464	U	*	*	1.15
1,2,3,7,8-PeCDF	*	4.135	U	*	*	1.01
2,3,4,7,8-PeCDF	*	4.790	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	6.531	U	*	*	1.16
1,2,3,6,7,8-HxCDF	*	6.387	U	*	*	1.08
1,2,3,7,8,9-HxCDF	*	7.899	U	*	*	1.14
2,3,4,6,7,8-HxCDF	*	7.268	U	*	*	1.13
1,2,3,4,6,7,8-HpCDF	*	6.746	U	*	*	1.35
1,2,3,4,7,8,9-HpCDF	*	8.435	U	*	*	1.40
OCDF	*	11.998	U	*	*	1.45
Total Tetra-Dioxins	*	11.861	U			
Total Penta-Dioxins	*	6.310	U			
Total Hexa-Dioxins	*	5.834	U			
Total Hepta-Dioxins	83.753	6.505				
Total Tetra-Furans	*	13.464	U			
Total Penta-Furans	*	4.790	U			
Total Hexa-Furans	*	6.387	U			
Total Hepta-Furans	9.940	6.746				

- (1) Qualifier U indicates not detected; The X & I indicates EMPC. The C needs value from second column analysis. The B indicates possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 2 and 9, Method 1613.

RFP C500273T1

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274109

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.08

Matrix (aqueous/solid/leachate): aqueous

Sample Wt/Vol: 1000 g or mL: mL

Sample Receipt Date: 07-02-99

Initial Calibration Date: 07-22-99

Ext. Date: 07-06-99 Shift:

Instrument ID: AutoSpec

Analysis Date: 22-JUL-99 Time: 18:25:23

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105209#10

Injection Volume(ul): 2.00

Blank Data Filename: A105209#9

Dilution Factor: 1

Cal. Ver. Data Filename: A105209#1

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

CONCENTRATION	TEF (1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	X 1.0	*
1,2,3,7,8-PeCDD	X 0.5	*
1,2,3,4,7,8-HxCDD	X 0.1	*
1,2,3,6,7,8-HxCDD	X 0.1	*
1,2,3,7,8,9-HxCDD	X 0.1	*
1,2,3,4,6,7,8-HpCDD	X 0.01	ND
OCDD	X 0.001	ND
2,3,7,8-TCDF	X 0.1	*
1,2,3,7,8-PeCDF	X 0.05	*
2,3,4,7,8-PeCDF	X 0.5	*
1,2,3,4,7,8-HxCDF	X 0.1	*
1,2,3,6,7,8-HxCDF	X 0.1	*
1,2,3,7,8,9-HxCDF	X 0.1	*
2,3,4,6,7,8-HxCDF	X 0.1	*
1,2,3,4,6,7,8-HpCDF	X 0.01	*
1,2,3,4,7,8,9-HpCDF	X 0.01	*
OCDF	X 0.001	*

*Total: 1.370e+00

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274110

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.11

Client Name: E&E-WA Sample Wt/Vol: 10.99 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-02-99 Instrument ID: AutoSpec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0 Sample Data Filename: A105201#5

Analysis Date: 20-JUL-99 Time: 14:08:39 Blank Data Filename: A105201#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105201#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.85

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.175	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.384	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.414	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.279	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.320	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	25.827	0.612		1.08	1.000	1.14
OCDD	356.889	1.003	J	0.99	1.000	1.11
2,3,7,8-TCDF	*	0.200	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.262	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.265	U	*	*	0.97
1,2,3,4,7,8-HxCDF	3.382	0.253	J	1.05	1.000	1.03
1,2,3,6,7,8-HxCDF	*	0.190	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.300	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.222	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	5.727	0.668		0.96	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.940	U	*	*	1.02
OCDF	15.725	1.068		0.80	1.004	1.21
Total Tetra-Dioxins	*	0.175	U			
Total Penta-Dioxins	*	0.384	U			
Total Hexa-Dioxins	*	0.279	U			
Total Hepta-Dioxins	50.624	0.612				
Total Tetra-Furans	6.621	0.200				
Total Penta-Furans	39.644	0.265				
Total Hexa-Furans	12.939	0.190				
Total Hepta-Furans	6.699	0.668				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

99274110

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.11

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 10.99 g or mL: g

Sample Receipt Date: 07-02-99

Initial Calibration Date: 07-01-99

Ext. Date: 07-06-99 Shift:

Instrument ID: AutoSpec

Analysis Date: 20-JUL-99 Time: 14:08:39

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105201#5

Injection Volume(ul): 2.00

Blank Data Filename: A105201#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105201#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.85

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD *	X 0.1	*
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD 25.83	X 0.01	2.58e-01
OCDD 356.89	X 0.001	3.57e-01
2,3,7,8-TCDF *	X 0.1	*
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF 3.38	X 0.1	3.38e-01
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF 5.73	X 0.01	5.73e-02
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF 15.72	X 0.001	1.57e-02

*Total: 3.56e-01
1.01 e 00

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update(EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274111

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.12

Client Name: E&E-WA Sample Wt/Vol: 11.84 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-02-99 Instrument ID: AutoSpec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0 Sample Data Filename: A105201#6

Analysis Date: 20-JUL-99 Time: 14:57:27 Blank Data Filename: A105201#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105201#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 11.29

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.183	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.280	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.259	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.174	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.200	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	8.306	0.178		1.10	1.001	1.14
OCDD	67.347	0.310		0.96	1.000	1.11
2,3,7,8-TCDF	*	0.173	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.121	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.123	U	*	*	0.97
1,2,3,4,7,8-HxCDF	1.630	0.178	J	1.17	1.001	1.03
1,2,3,6,7,8-HxCDF	*	0.133	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.211	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.156	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	3.609	0.263		1.07	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.370	U	*	*	1.02
OCDF	7.591	0.417		0.86	1.004	1.21
Total Tetra-Dioxins	*	0.183	U			
Total Penta-Dioxins	*	0.280	U			
Total Hexa-Dioxins	*	0.174	U			
Total Hepta-Dioxins	15.674	0.178				
Total Tetra-Furans	1.219	0.173				
Total Penta-Furans	15.528	0.123				
Total Hexa-Furans	*	0.133	U			
Total Hepta-Furans	3.609	0.263				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274111

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39261
Client Name: E&E-WA Lab Sample ID: 39261.12
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 11.84 g or mL: g
Sample Receipt Date: 07-02-99 Initial Calibration Date: 07-01-99
Ext. Date: 07-06-99 Shift: Instrument ID: AutoSpec
Analysis Date: 20-JUL-99 Time: 14:57:27 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105201#6
Injection Volume(ul): 2.00 Blank Data Filename: A105201#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105201#1
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 11.29

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD *	X 0.1	*
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD 8.31	X 0.01	8.31e-02
OCDD 67.35	X 0.001	6.73e-02
2,3,7,8-TCDF *	X 0.1	*
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF 1.63	X 0.1	1.63e-01
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF 3.61	X 0.01	3.61e-02
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF 7.59	X 0.001	7.59e-03

*Total: 5.527e-01

3.57e01

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update(EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274113

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.16

Client Name: E&E-WA Sample Wt/Vol: 16.16 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-02-99 Instrument ID: AutoSpec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0 Sample Data Filename: A105201#9

Analysis Date: 20-JUL-99 Time: 17:23:50 Blank Data Filename: A105201#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105201#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 23.81

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.091	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.102	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.145	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.098	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.112	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	1.091	0.148	U	0.92	1.000	1.14
OCDD	7.548	0.212	U	0.96	1.000	1.11
2,3,7,8-TCDF	0.383	0.100	U	0.99	1.001	1.15
1,2,3,7,8-PeCDF	*	0.076	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.077	U	*	*	0.97
1,2,3,4,7,8-HxCDF	*	0.096	U	*	*	1.03
1,2,3,6,7,8-HxCDF	*	0.072	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.114	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.084	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	*	0.090	U	*	*	1.44
1,2,3,4,7,8,9-HpCDF	*	0.127	U	*	*	1.02
OCDF	*	0.168	U	*	*	1.21
Total Tetra-Dioxins	*	0.091	U			
Total Penta-Dioxins	*	0.102	U			
Total Hexa-Dioxins	0.252	0.098				
Total Hepta-Dioxins	1.979	0.148				
Total Tetra-Furans	*	0.100	U			
Total Penta-Furans	*	0.077	U			
Total Hexa-Furans	*	0.072	U			
Total Hepta-Furans	*	0.090	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

9/3/99

USEPA - ITD

AATS/SWOK, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID

99274113

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261:16

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 16.15 g or mL: g

Sample Receipt Date: 07/02/99

Initial Calibration Date: 05/13/99

Ext. Date: 07/06/99

Instrument ID: 70S

Analysis Date: 21-JUL-99 Time: 16:35:02

GC Column ID: SP2331

Extract Volume (uL): 20.0

Sample Data Filename: S104230#9

Injection Volume (uL): 2.0

Blank Data Filename: S104227#13

Dilution Factor: 1

Cal. Ver. Data Filename: S104230#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 23.81

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	EMPC	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDF	0.417	0.1407	-	0.73	1.001
INT. STANDARD	SPIKE CONCENTRATION	CONCENT. FOUND	RECOV. %	ION ABUND. RATIO (2)	RRT (1)
13C-2,3,7,8-TCDF	1000	742.94	74.29	0.74	1.16
CLEANUP STANDARD					
37Cl-2,3,7,8-TCDD	800	547.60	68.45		0.99

NOTE: Concentrations, EMPCs, and EDL are calculated on a dry weight basis.

TCDDFl1

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274113

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39261
Client Name: E&E-WA Lab Sample ID: 39261.16
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 16.16 g or mL: g
Sample Receipt Date: 07-02-99 Initial Calibration Date: 07-01-99
Ext. Date: 07-06-99 Shift: Instrument ID: AutoSpec
Analysis Date: 20-JUL-99 Time: 17:23:50 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105201#9
Injection Volume(ul): 2.00 Blank Data Filename: A105201#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105201#1
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 23.81

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	1.09	X 0.01	1.09e-02
OCDD	ND 7.55	X 0.001	ND 7.55e-03
2,3,7,8-TCDF	0.4170.38	X 0.1	0.417e-02
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	*	X 0.01	*
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	*	X 0.001	*
*Total: 9.082e-02			1.09e-02

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274114

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.17

Client Name: E&E-WA Sample Wt/Vol: 980 g or mL: mL

Matrix (aqueous/solid/leachate): aqueous Initial Calibration Date: 07-22-99

Sample Receipt Date: 07-02-99 Instrument ID: Autospec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0 Sample Data Filename: A105212#5

Analysis Date: 23-JUL-99 Time: 12:41:53 Blank Data Filename: A105209#9

Dilution Factor: 1 Cal. Ver. Data Filename: A105212#3

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	7.185	U	*	*	1.37
1,2,3,7,8-PeCDD	*	8.081	U	*	*	1.17
1,2,3,4,7,8-HxCDD	*	6.714	U	*	*	1.10
1,2,3,6,7,8-HxCDD	*	6.137	U	*	*	0.99
1,2,3,7,8,9-HxCDD	*	6.071	U	*	*	1.09
1,2,3,4,6,7,8-HpCDD	82.339	4.611	U	1.18	1.000	1.21
OCDD	1037.870	8.595	U	0.90	1.000	1.28
2,3,7,8-TCDF	*	9.639	U	*	*	1.15
1,2,3,7,8-PeCDF	*	5.047	U	*	*	1.01
2,3,4,7,8-PeCDF	*	4.730	U	*	*	1.07
1,2,3,4,7,8-HxCDF	11.583	7.189	U	1.18	1.001	1.16
1,2,3,6,7,8-HxCDF	*	7.180	U	*	*	1.08
1,2,3,7,8,9-HxCDF	*	11.485	U	*	*	1.14
2,3,4,6,7,8-HxCDF	*	9.034	U	*	*	1.13
1,2,3,4,6,7,8-HpCDF	32.134	5.919	U	1.16	1.000	1.35
1,2,3,4,7,8,9-HpCDF	*	9.575	U	*	*	1.40
OCDF	122.027	9.004		0.87	1.003	1.45
Total Tetra-Dioxins	*	7.185	U			
Total Penta-Dioxins	*	8.081	U			
Total Hexa-Dioxins	*	6.137	U			
Total Hepta-Dioxins	151.974	4.611				
Total Tetra-Furans	*	9.639	U			
Total Penta-Furans	*	4.730	U			
Total Hexa-Furans	27.301	7.180				
Total Hepta-Furans	32.134	5.919				

(1) Qualifier U indicates not detected; The X & I indicates EMPC. The C needs value from second column analysis. The B indicates possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 2 and 9, Method 1613.

RFP C500273T1

①
8/3/99

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274114

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39261
Client Name: E&E-WA Lab Sample ID: 39261.17
Matrix (aqueous/solid/leachate): aqueous Sample Wt/Vol: 980 g or mL: mL
Sample Receipt Date: 07-02-99 Initial Calibration Date: 07-22-99
Ext. Date: 07-06-99 Shift: Instrument ID: Autospec
Analysis Date: 23-JUL-99 Time: 12:41:53 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105212#5
Injection Volume(ul): 2.00 Blank Data Filename: A105209#9
Dilution Factor: 1 Cal. Ver. Data Filename: A105212#3
Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	ND 82.34	X 0.01	ND 8.23e-01
OCDD	ND 1037.87	X 0.001	ND 1.04e+00
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	11.58	X 0.1	1.16e+00
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	32.13	X 0.01	3.21e-01
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	122.03	X 0.001	1.22e-01

*Total: 6.689e+00

1.60e00

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274115

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.13

Client Name: E&E-WA

Sample Wt/Vol: 15.78 g or mL: g.

Matrix (aqueous/solid/leachate): solid

Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-02-99

Instrument ID: AutoSpec

Ext. Date: 07-06-99

GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0

Sample Data Filename: A105201#7

Analysis Date: 20-JUL-99 Time: 15:46:15

Blank Data Filename: A105201#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105201#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 8.64

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.116	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.187	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.154	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.104	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.119	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	1.833	0.281		1.00	1.001	1.14
OCDD	15.904	0.296	U	0.98	1.000	1.11
2,3,7,8-TCDF	*	0.120	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.112	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.113	U	*	*	0.97
1,2,3,4,7,8-HxCDF	1.022	0.262	U	1.40	1.000	1.03
1,2,3,6,7,8-HxCDF	*	0.196	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.311	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.230	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	0.627	0.183	U	0.80	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.258	U	*	*	1.02
OCDF	1.129	0.326		0.86	1.004	1.21
Total Tetra-Dioxins	*	0.116	U			
Total Penta-Dioxins	*	0.187	U			
Total Hexa-Dioxins	0.677	0.104				
Total Hepta-Dioxins	3.934	0.281				
Total Tetra-Furans	1.759	0.120				
Total Penta-Furans	15.691	0.113				
Total Hexa-Furans	4.008	0.196				
Total Hepta-Furans	*	0.183	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value
from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

①
7/3/99

347

USEPA - ITD

Page 6 of 16

AATS/SWOK, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID

99274115

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.13

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 15.78 g or mL: g

Sample Receipt Date: 07/02/99

Initial Calibration Date: 05/13/99

Ext. Date: 07/06/99

Instrument ID: 70S

Analysis Date: 21-JUL-99 Time: 15:21:19

GC Column ID: SP2331

Extract Volume (uL): 20.0

Sample Data Filename: S104230#7

Injection Volume (uL): 2.0

Blank Data Filename: S104227#13

Dilution Factor: 1

Cal. Ver. Data Filename: S104230#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 8.64

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	EMPC	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDF	*	0.1662	*	*	*
INT. STANDARD	SPIKE CONCENTRATION	CONCENT. FOUND	RECOV. %	ION ABUND. RATIO (2)	RRT (1)
13C-2,3,7,8-TCDF	1000	625.86	62.59	0.77	1.16
CLEANUP STANDARD					
37C1-2,3,7,8-TCDD	800	406.53	50.82		0.99

NOTE: Concentrations, EMPCs, and EDL are calculated on a dry weight basis.

TCDDF11

9/3/99
372

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

99274115

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.13

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 15.78 g or mL: g

Sample Receipt Date: 07-02-99

Initial Calibration Date: 07-01-99

Ext. Date: 07-06-99 Shift:

Instrument ID: AutoSpec

Analysis Date: 20-JUL-99 Time: 15:46:15

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105201#7

Injection Volume(ul): 2.00

Blank Data Filename: A105201#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105201#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 8.64

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	1.83	X 0.01	1.83e-02
OCDD	15.90	X 0.001	1.59e-02
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	1.02	X 0.1	1.02e-01
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8,9-HpCDF	0.63	X 0.01	6.27e-03
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	1.13	X 0.001	1.13e-03

*Total: 8.093e-01

1.28e-01

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274116

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.14

Client Name: E&E-WA Sample Wt/Vol: 14.85 g or mL: g.

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-02-99 Instrument ID: AutoSpec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0 Sample Data Filename: A105201#8

Analysis Date: 20-JUL-99 Time: 16:35:02 Blank Data Filename: A105201#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105201#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 6.82

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.099	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.125	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.135	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.091	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.104	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	1.014	0.194		1.14	1.001	1.14
OCDD	9.754	0.237	U	0.93	1.000	1.11
2,3,7,8-TCDF	*	0.162	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.113	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.114	U	*	*	0.97
1,2,3,4,7,8-HxCDF	1.282	0.187	U	1.19	1.001	1.03
1,2,3,6,7,8-HxCDF	*	0.140	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.222	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.164	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	2.034	0.126		1.08	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.177	U	*	*	1.02
OCDF	0.925	0.279	U	1.07	1.003	1.21
Total Tetra-Dioxins	*	0.099	U			
Total Penta-Dioxins	*	0.125	U			
Total Hexa-Dioxins	*	0.091	U			
Total Hepta-Dioxins	1.014	0.194				
Total Tetra-Furans	*	0.162	U			
Total Penta-Furans	8.035	0.114				
Total Hexa-Furans	3.311	0.140				
Total Hepta-Furans	3.832	0.126				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

①
9/3/99

USEPA - ITD

Page 7 of 16

AATS/SWOK, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID

99274116

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Client Name: E&E-WA

Lab Sample ID: 39261.14

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 14.85 g or mL: g

Sample Receipt Date: 07/02/99

Initial Calibration Date: 05/13/99

Ext. Date: 07/06/99

Instrument ID: 70S

Analysis Date: 21-JUL-99 Time: 15:58:10

GC Column ID: SP2331

Extract Volume (uL): 20.0

Sample Data Filename: S104230#8

Injection Volume (uL): 2.0

Blank Data Filename: S104227#13

Dilution Factor: 1

Cal. Ver. Data Filename: S104230#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 6.82

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	EMPC	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDF	*	0.2217	*	*	*
INT. STANDARD	SPIKE CONCENTRATION	CONCENT. FOUND	RECOV. %	ION ABUND. RATIO (2)	RRT (1)
13C-2,3,7,8-TCDF	1000	582.74	58.27	0.73	1.16
CLEANUP STANDARD					
37C1-2,3,7,8-TCDD	800	550.98	68.87		0.99

NOTE: Concentrations, EMPCs, and EDL are calculated on a dry weight basis.

TCDDF11

①
9/3/99

400

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274116

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39261
Client Name: E&E-WA Lab Sample ID: 39261.14
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 14.85 g or mL: g
Sample Receipt Date: 07-02-99 Initial Calibration Date: 07-01-99
Ext. Date: 07-06-99 Shift: Instrument ID: AutoSpec
Analysis Date: 20-JUL-99 Time: 16:35:02 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105201#8
Injection Volume(ul): 2.00 Blank Data Filename: A105201#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105201#1
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 6.82

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	1.01	X 0.01	ND 1.01e-02
OCDD	ND 9.75	X 0.001	9.75e-03
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	1.28	X 0.1	1.28e-01
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	2.03	X 0.01	2.03e-02
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	0.93	X 0.001	9.25e-04

*Total: 5.185e-01

1.59e-01

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update(EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99274117

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39261

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39261.15

Client Name: E&E-WA Sample Wt/Vol: 1000 g or mL: mL

Matrix (aqueous/solid/leachate): aqueous Initial Calibration Date: 07-22-99

Sample Receipt Date: 07-02-99 Instrument ID: AutoSpec

Ext. Date: 07-06-99 GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0 Sample Data Filename: A105209#8

Analysis Date: 22-JUL-99 Time: 16:47:55 Blank Data Filename: A105209#9

Dilution Factor: 1 Cal. Ver. Data Filename: A105209#1

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	3.111	U	*	*	1.37
1,2,3,7,8-PeCDD	*	2.122	U	*	*	1.17
1,2,3,4,7,8-HxCDD	*	2.400	U	*	*	1.10
1,2,3,6,7,8-HxCDD	*	2.220	U	*	*	0.99
1,2,3,7,8,9-HxCDD	*	2.181	U	*	*	1.09
1,2,3,4,6,7,8-HpCDD	43.473	3.227	U	1.04	1.000	1.21
OCDD	515.980	2.810	U	0.95	1.000	1.28
2,3,7,8-TCDF	*	3.973	U	*	*	1.15
1,2,3,7,8-PeCDF	*	1.898	U	*	*	1.01
2,3,4,7,8-PeCDF	*	1.764	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	2.085	U	*	*	1.16
1,2,3,6,7,8-HxCDF	*	2.096	U	*	*	1.08
1,2,3,7,8,9-HxCDF	*	2.642	U	*	*	1.14
2,3,4,6,7,8-HxCDF	*	2.008	U	*	*	1.13
1,2,3,4,6,7,8-HpCDF	4.542	2.641	U	1.58	1.000	1.35
1,2,3,4,7,8,9-HpCDF	*	3.220	U	*	*	1.40
OCDF	16.634	3.516		0.86	1.004	1.45
Total Tetra-Dioxins	*	3.111	U			
Total Penta-Dioxins	*	2.122	U			
Total Hexa-Dioxins	*	2.220	U			
Total Hepta-Dioxins	70.980	3.227				
Total Tetra-Furans	*	3.973	U			
Total Penta-Furans	*	1.764	U			
Total Hexa-Furans	*	2.096	U			
Total Hepta-Furans	*	2.641	U			

(1) Qualifier U indicates not detected; The X & I indicates EMPC. The C needs value from second column analysis. The B indicates possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 2 and 9, Method 1613.

RFP C500273T1

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99274117

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39261
Client Name: E&E-WA Lab Sample ID: 39261.15
Matrix (aqueous/solid/leachate): aqueous Sample Wt/Vol: 1000 g or mL: mL
Sample Receipt Date: 07-02-99 Initial Calibration Date: 07-22-99
Ext. Date: 07-06-99 Shift: Instrument ID: AutoSpec
Analysis Date: 22-JUL-99 Time: 16:47:55 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105209#8
Injection Volume(ul): 2.00 Blank Data Filename: A105209#9
Dilution Factor: 1 Cal. Ver. Data Filename: A105209#1
Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD *	X 0.1	*
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD ND 43.47	X 0.01	4.35e-01 ① 7/3/99
OCDD ND 515.98	X 0.001	5.16e-01 ① 7/3/99
2,3,7,8-TCDF *	X 0.1	*
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF *	X 0.1	*
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF 4.54	X 0.01	4.54e-02
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF 16.63	X 0.001	1.66e-02
*Total: 1.288e+00 ① 7/3/99		
6.20e-02		

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989).'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

①
7/3/99



ecology and environment, inc.

International Specialists in the Environment

1500 First Interstate Center, 999 Third Avenue
Seattle, Washington 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: August 26, 1999

TO: Mark Woodke, START-Project Manager, Seattle, WA

FROM: David Ikeda, Chemist, E & E, Seattle, WA *DI*

THRU: Letta Dahlhoff, Chemist, E & E, Seattle, WA *LD*

SUBJ: Organic Data Quality Assurance Review, Wenatchee Brownfields Site,
Wenatchee, Washington

REF: TDD: 98-11-0007 PAN: CK-07-01-SI-DM

The data quality assurance review of two waters samples and eight soil samples collected from the Wenatchee Brownfields site located in Wenatchee, Washington, has been completed. Analysis for Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) following EPA Method 8290 for soil samples and EPA Method 1613B for water samples were performed by Southwest Laboratory of Oklahoma, Broken Arrow, Oklahoma.

The samples were numbered:

Soil:	99284154	99284158	99284160	99284178
	99284155	99284159	99284177	99284179
Water:	99284156	99284161		

Data Qualifications:

I Holding Time: Acceptable.

The samples were collected July 6, 7, and 8, 1999; maintained at 4°C ($\pm 2^\circ\text{C}$); extracted by July 30, 1999; and analyzed by August 5, 1999, therefore meeting QC criteria of less than 30 days for soil samples and 7 days for water samples between collection and extraction and less than 45 days for soil samples and 40 days for water samples between extraction and analysis.

II Instrument Performance: Acceptable.

A performance check solution was analyzed at the beginning of each 12-hour sample analysis period. The minimum resolving power of 10,000 was attained. The valley between 2,3,7,8-tetrachlorodibenzodioxin (2,3,7,8-TCDD) and the peaks representing all other TCDD isomers was $\leq 25\%$ in the window defining mix solution. All ion abundance and retention time criteria were met in all calibration standards.

III Calibration

A. Initial Calibration: Acceptable.

A 5-point initial calibration was performed with all Relative Standard Deviations (RSDs) values less than 20 % for the unlabeled target analytes and less than 30 % for the labeled internal standards. All ion abundance ratios, signal-to-noise (s/n) ratios, and retention times were within method QC limits.

B. Continuing Calibration: Acceptable.

A continuing calibration was analyzed at the start of each 12-hour period. The percent valley between 2,3,7,8-TCDD and the closest tetrachlorodibenzofuran (TCDF) isomer was less than 25 %. The retention times for all of the furan and dioxin homologues were established and properly labeled from the first to the last eluters. All ion abundance and s/n ratios were within method QC limits. All percent differences values were less than 30 % for the labeled internal standards and less than 20 % for the unlabeled target analytes.

IV Compound Quantitation and Detection Limits: Acceptable.

All of the samples were analyzed at the project required quantitation limits. Some of the totals reported were corrected by the reviewer due to adjustments that had to be made because of blank contamination. All of the compounds, except TCDF, were calculated off the primary column, DB5. All TCDF concentrations were confirmed and quantitated by a second column, SP2331. All of the detected target compounds were within the linear calibration range.

V Blanks: Satisfactory.

The frequency of analysis of laboratory blanks was met. No target analytes were detected in any blanks, except for the following:

BLANK ID	MATRIX	COMPOUND	CONC.	ASSOCIATED SAMPLES
DBLK2	Water	OCDD	10.246 pg/L	99284156 and 99284161
DBLK3	Soil	1,2,3,4,6,7,8-HpCDD	0.669 ng/kg	99284154RE and 99284158RE
DBLK3	Soil	OCDD	8.094 ng/kg	99284154RE and 99284158RE

CONC. = Concentration.

HpCDD = Heptachlorodibenzodioxin.

OCDD = Octachlorodibenzodioxin.

The OCDD detected in the associated samples 992844156 and 992844161 were qualified as non-detect, "U", due to the concentration being less than 5 times the value in the blank. The TEF factor was also corrected by the reviewer because of blank contamination.

VI Analytical Sequence: Acceptable.

All of the standards, blanks, samples and QC samples were analyzed in accordance with the method-specified analytical sequence.

VII Internal Standards: Satisfactory.

All internal standard (IS) ion abundance ratios were within method QC limits. All IS percent recovery (%R) values were within the QC limits, except:

SAMPLE ID	MATRIX	INTERNAL STANDARD	%R	QC LIMITS
99284154RE	Soil	¹³ C-2,3,7,8-TCDF	36.05	40 - 135 %
99284158RE	Soil	¹³ C-OCDD	21.93	40 - 135 %
99284159	Soil	¹³ C-1,2,3,4,6,7,8-HpCDD	39.81	40 - 135 %
99284159	Soil	¹³ C-OCDD	31.13	40 - 135 %
99284177	Soil	¹³ C-OCDD	22.45	40 - 135 %
99284178	Soil	¹³ C-OCDD	38.54	40 - 135 %
99284178	Soil	¹³ C-2,3,7,8-TCDF	34.00	40 - 135 %
99284179	Soil	¹³ C-2,3,7,8-TCDF	26.04	40 - 135 %

TCDF = Tetrachlorodibenzofuran.

HpCDD = Heptachlorodibenzodioxon.

OCDD = Octachlorodibenzodioxon.

Quantitation limits and positive results for associated analytes were flagged as estimated (UJ or J), except for 2,3,7,8-TCDF in sample 99284154RE. The TCDF result for sample 99284154RE was quantitated by a second column, and the IS was within QC limits.

VI Surrogate Recoveries: Not Applicable.

Surrogates were not required for this method. Clean-up standard ³⁷Cl-2,3,7,8-TCDD was added to all samples and QC samples. The clean-up standard percent recovery values were acceptable.

VII Duplicate Sample Analysis: Not Applicable.

Duplicate sample analyses were not performed. No action was taken by the reviewer.

VIII Matrix Spike/Matrix Spike Duplicates: Satisfactory.

Matrix spike percent spike recovery (%R) values were within QC limits, except:

SAMPLE ID	MATRIX	ANALYTE	%R	QC LIMITS
99284154MS	Soil	2,3,4,6,7,8-HxCDF	44.5	50 - 150 %

HxCDF = Hexachlorodibenzofuran.

The quantitation limit for 2,3,4,6,7,8-HxCDF was flagged as estimated (UJ) in sample 99284154RE.

The relative percent difference (RPD) values between the matrix spike and matrix spike duplicate were within QC limits, except:

SAMPLE ID	MATRIX	ANALYTE	RPD	QC LIMITS
99284158	Soil	1,2,3,4,7,8-HxCDF	76.3	50

HxCDF = Hexachlorodibenzofuran.

The sample results for 1,2,3,4,7,8-HxCDF were flagged as estimated (J) in sample 99284158.

IX Compound Identification: Acceptable.

For analytes with isotopically labeled standards, the retention times of the sample quantitation ions maximized within -1 to +3 seconds of the isotopically labeled standard ions. Several samples had ratios for the quantitation ion integrated ion currents outside the method QC limits, the laboratory qualified these sample results as estimated maximum possible concentrations (X or I). The reviewer changed the laboratory qualifiers "X" and "I" to "J" (estimated).

X Laboratory Control Sample (LCS) Analyses: Acceptable.

A spiked blank was extracted and analyzed with each sample delivery group (SDG). The percent recovery values for the target compounds and internal standards for the LCS met the acceptance criteria. None of the data were qualified on this basis.

XI Laboratory Contact: Required.

The laboratory was contacted on August 25, 1999 (see attached telephone log).

XII Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in EPA Method 8290 and the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures" (EPA/540/G-90/004). Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits or because quality control criteria limits were not met.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

TELEPHONE CONVERSATION

Person Talked To JAYANT SHRINGAR PURE, PhD
Company SW LABORATORY OF OKLAHOMA Date 25 AUGUST 1999
Phone Number 918-251-2858 (F) X 2599 Time 1315
Job Name _____ Job No. 3933.4

CONVERSATION

- 1) MISSING EXTRACTION LOGS FROM 7/30/99
- 2) MISSING SAMPLE LOG-IN SHEET
- 3) SAMPLE 39334.0123 (99284154RE) TOTAL PENTA FURAN REPORTED
DATA DOES NOT MATCH THE SPREAD SHEET.

ACTION

1+2) FAXED - OK

FAX @ 7/26/99

3) See ATTACHED SHEET FOR CALCULATION

DISTRIBUTION

By

David A Ikeda
DAVID AKIO IKEDA

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284154 RE

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39334.01RE

Client Name: E&E-WA

Sample Wt/Vol: 10.57 g or mL: g

Matrix (aqueous/solid/leachate): solid

Initial Calibration Date: 07/01/99

Sample Receipt Date: 07/09/99

Instrument ID: AutoSpec

Ext. Date: 07/30/99

GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0

Sample Data Filename: A105252#5

Analysis Date: 5-AUG-99 Time: 13:11:21

Blank Data Filename: A105252#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105250#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg

% Moisture: 6.81

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.242	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.528	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.567	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.382	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.438	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	5.153	0.661		1.02	1.000	1.14
OCDD	49.865	0.684		0.82	1.000	1.11
2,3,7,8-TCDF	*	0.365	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.516	U	*	*	0.98
2,3,4,7,8-PeCDF	0.359	0.522	U	0.90	1.029	0.97
1,2,3,4,7,8-HxCDF	13.630	0.989	U	1.07	1.000	1.03
1,2,3,6,7,8-HxCDF	0.902	0.742	U	0.97	1.006	1.38
1,2,3,7,8,9-HxCDF	*	1.174	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.867	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	1.834	0.621		0.95	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.875	U	*	*	1.02
OCDF	4.353	0.736		0.90	1.003	1.21
Total Tetra-Dioxins	*	0.242	U			
Total Penta-Dioxins	*	0.528	U			
Total Hexa-Dioxins	1.295	0.382				
Total Hepta-Dioxins	5.153	0.661				
Total Tetra-Furans	4.477	0.365				
Total Penta-Furans	24.319	0.522				
Total Hexa-Furans	*	0.742	U			
Total Hepta-Furans	1.834	0.621				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

USEPA, ITD
1DFB

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

99284154 RE

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39334

Client Name: E&E-WA

Lab Sample ID: 39334.01RE

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 10.57 g or mL: g

Sample Receipt Date: 07/09/99

Initial Calibration Date: 07/01/99

Ext. Date: 07/30/99 Shift:

Instrument ID: AutoSpec

Analysis Date: 5-AUG-99 Time: 13:11:21

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105252#5

Injection Volume(ul): 2.00

Blank Data Filename: A105252#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105250#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 6.81

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	5.15	X 0.01	5.15e-02
OCDD	49.87	X 0.001	4.99e-02
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	0.36	X 0.5	1.79e-01
1,2,3,4,7,8-HxCDF	13.63	X 0.1	1.36e+00
1,2,3,6,7,8-HxCDF	0.90	X 0.1	9.02e-02
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	1.83	X 0.01	1.83e-02
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	4.35	X 0.001	4.35e-03

Total: 1.756e+00

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284155

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39334.04

Client Name: E&E-WA Sample Wt/Vol: 14.66 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-09-99 Instrument ID: AutoSpec

Ext. Date: 07-09-99 GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0 Sample Data Filename: A105224#3

Analysis Date: 28-JUL-99 Time: 22:54:41 Blank Data Filename: A105224#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105222#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 5.50

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.249	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.357	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.357	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.240	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.276	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	*	0.400	U	*	*	1.14
OCDD	1.293	0.403		0.96	1.000	1.11
2,3,7,8-TCDF	*	0.271	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.230	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.233	U	*	*	0.97
1,2,3,4,7,8-HxCDF	*	0.233	U	*	*	1.03
1,2,3,6,7,8-HxCDF	*	0.174	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.276	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.204	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	*	0.218	U	*	*	1.44
1,2,3,4,7,8,9-HpCDF	*	0.307	U	*	*	1.02
OCDF	*	0.351	U	*	*	1.21
Total Tetra-Dioxins	*	0.249	U			
Total Penta-Dioxins	*	0.357	U			
Total Hexa-Dioxins	*	0.240	U			
Total Hepta-Dioxins	*	0.400	U			
Total Tetra-Furans	*	0.271	U			
Total Penta-Furans	*	0.233	U			
Total Hexa-Furans	*	0.174	U			
Total Hepta-Furans	*	0.218	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

99284155

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39334

Client Name: E&E-WA

Lab Sample ID: 39334.04

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol. 14.66 g or mL: g

Sample Receipt Date: 07-09-99

Initial Calibration Date: 07-01-99

Ext. Date: 07-09-99 Shift:

Instrument ID: AutoSpec

Analysis Date: 28-JUL-99 Time: 22:54:41

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105224#3

Injection Volume(ul): 2.00

Blank Data Filename: A105224#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105222#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 5.50

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD *	X 0.1	*
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD *	X 0.01	*
OCDD 1.29	X 0.001	1.29e-03
2,3,7,8-TCDF *	X 0.1	*
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF *	X 0.1	*
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF *	X 0.01	*
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF *	X 0.001	*

Total: 1.293e-03

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989).'

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284156

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39334.05

Client Name: E&E-WA Sample Wt/Vol: 1050 g or mL: mL

Matrix (aqueous/solid/leachate): aqueous Initial Calibration Date: 07/22/99

Sample Receipt Date: 07/09/99 Instrument ID: AutoSpec

Ext. Date: 07/14/99 GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 1.0 Sample Data Filename: A105222#6

Analysis Date: 28-JUL-99 Time: 13:37:16 Blank Data Filename: A105222#4

Dilution Factor: 1 Cal. Ver. Data Filename: A105222#2

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	3.871	U	*	*	1.37
1,2,3,7,8-PeCDD	*	3.886	U	*	*	1.17
1,2,3,4,7,8-HxCDD	*	5.224	U	*	*	1.10
1,2,3,6,7,8-HxCDD	*	4.515	U	*	*	0.99
1,2,3,7,8,9-HxCDD	*	4.530	U	*	*	1.09
1,2,3,4,6,7,8-HpCDD	*	3.437	U	*	*	1.21
OCDD	12.157	3.939	U	0.83	1.000	1.28
2,3,7,8-TCDF	*	3.966	U	*	*	1.15
1,2,3,7,8-PeCDF	*	2.185	U	*	*	1.01
2,3,4,7,8-PeCDF	*	2.017	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	3.064	U	*	*	1.16
1,2,3,6,7,8-HxCDF	*	2.977	U	*	*	1.08
1,2,3,7,8,9-HxCDF	*	4.254	U	*	*	1.14
2,3,4,6,7,8-HxCDF	*	3.267	U	*	*	1.13
1,2,3,4,6,7,8-HpCDF	*	2.912	U	*	*	1.35
1,2,3,4,7,8,9-HpCDF	*	4.018	U	*	*	1.40
OCDF	*	3.355	U	*	*	1.45
Total Tetra-Dioxins	*	3.871	U			
Total Penta-Dioxins	*	3.886	U			
Total Hexa-Dioxins	*	4.515	U			
Total Hepta-Dioxins	*	3.437	U			
Total Tetra-Furans	*	3.966	U			
Total Penta-Furans	*	2.017	U			
Total Hexa-Furans	*	2.977	U			
Total Hepta-Furans	*	2.912	U			

(1) Qualifier U indicates not detected; The X & I indicates EMPC. The C needs value from second column analysis. The B indicates possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 2 and 9, Method 1613.

8/24/99

USEPA, ITD
1DFB

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

99284156

Lab Name: SOUTHWEST LAB. OF OKLAHOMA. Episode No.: 39334
 Client Name: E&E-WA Lab Sample ID: 39334.05
 Matrix (aqueous/solid/leachate): aqueous Sample Wt/Vol: 1050 g or mL: mL
 Sample Receipt Date: 07/09/99 Initial Calibration Date: 07/22/99
 Ext. Date: 07/14/99 Shift: Instrument ID: AutoSpec
 Analysis Date: 28-JUL-99 Time: 13:37:16 GC Column ID: DB-5
 Extract Volume(ul): 20.0 Sample Data Filename: A105222#6
 Injection Volume(ul): 2.00 Blank Data Filename: A105222#4
 Dilution Factor: 1 Cal. Ver. Data Filename: A105222#2
 Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	X 1.0	*
1,2,3,7,8-PeCDD	X 0.5	*
1,2,3,4,7,8-HxCDD	X 0.1	*
1,2,3,6,7,8-HxCDD	X 0.1	*
1,2,3,7,8,9-HxCDD	X 0.1	*
1,2,3,4,6,7,8-HpCDD	X 0.01	*
OCDD	X 0.001	*
2,3,7,8-TCDF	X 0.1	*
1,2,3,7,8-PeCDF	X 0.05	*
2,3,4,7,8-PeCDF	X 0.5	*
1,2,3,4,7,8-HxCDF	X 0.1	*
1,2,3,6,7,8-HxCDF	X 0.1	*
1,2,3,7,8,9-HxCDF	X 0.1	*
2,3,4,6,7,8-HxCDF	X 0.1	*
1,2,3,4,6,7,8-HpCDF	X 0.01	*
1,2,3,4,7,8,9-HpCDF	X 0.01	*
OCDF	X 0.001	*

Handwritten notes: 8/22/99, 12.16 u, 8/22/99, 1.22e-02 u, 8/22/99, 1.216e-02 ND

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284158 RE

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Lab Code: SWL Case No.:

SDG No.:

Lab Sample ID: 39334.06RE

Client Name: E&E-WA

Sample Wt/Vol: 10.46 g or mL: g

Matrix (aqueous/solid/leachate): solid

Initial Calibration Date: 07/01/99

Sample Receipt Date: 07/09/99

Instrument ID: AutoSpec

Ext. Date: 07/30/99

GC Column: DB-5

Ext. Vol(ul): 20.0

Inj. Vol(ul): 2.0

Sample Data Filename: A105253#1

Analysis Date: 5-AUG-99 Time: 17:31:06

Blank Data Filename: A105252#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105250#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.42

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.331	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.998	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.602	U	*	*	0.74
1,2,3,6,7,8-HxCDD	1.712	0.405	J	0.71	1.000	1.10
1,2,3,7,8,9-HxCDD	1.744	0.465	J	1.99	1.009	0.96
1,2,3,4,6,7,8-HpCDD	51.369	1.705		1.09	1.000	1.14
OCDD	386.564	1.608	J	0.91	1.001	1.11
2,3,7,8-TCDF	**			0.79	1.002	1.15
1,2,3,7,8-PeCDF	*	0.537	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.543	U	*	*	0.97
1,2,3,4,7,8-HxCDF	25.284	0.632	J	1.15	0.999	1.03
1,2,3,6,7,8-HxCDF	1.173	0.474		1.33	1.003	1.38
1,2,3,7,8,9-HxCDF	*	0.750	U	*	*	0.87
2,3,4,6,7,8-HxCDF	3.079	0.554		1.12	1.019	1.18
1,2,3,4,6,7,8-HpCDF	11.381	1.446		0.98	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	2.036	U	*	*	1.02
OCDF	19.036	1.979	J	0.74	1.004	1.21
Total Tetra-Dioxins	2.580	0.331				
Total Penta-Dioxins	*	0.998	U			
Total Hexa-Dioxins	11.765	0.405				
Total Hepta-Dioxins	97.387	1.705				
Total Tetra-Furans	32.800	0.397				
Total Penta-Furans	99.584	0.543				
Total Hexa-Furans	25.659	0.474				
Total Hepta-Furans	30.356	1.446				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

** See SECOND COLUMN ANALYSIS FOR
QUANTIFICATION OF 2,3,7,8-TCDFDavid S. Beede
26 AUG 99①
9/22/99

73

USEPA, ITD
1DFB

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

99284158 RE

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39334

Client Name: E&E-WA

Lab Sample ID: 39334.06RE

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 10.46 g or mL: g

Sample Receipt Date: 07/09/99

Initial Calibration Date: 07/01/99

Ext. Date: 07/30/99 Shift:

Instrument ID: AutoSpec

Analysis Date: 5-AUG-99 Time: 17:31:06

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105253#1

Injection Volume(ul): 2.00

Blank Data Filename: A105252#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105250#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.42

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD 1.71	X 0.1	1.71e-01
1,2,3,7,8,9-HxCDD 1.74	X 0.1	1.74e-01
1,2,3,4,6,7,8-HpCDD 51.37	X 0.01	5.14e-01
OCDD 386.56	X 0.001	3.87e-01
2,3,7,8-TCDF ND-2.00	X 0.1	2.00e-01 ND
1,2,3,7,8-PeCDF 8/26/99 *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF 25.28	X 0.1	2.53e+00
1,2,3,6,7,8-HxCDF 1.17	X 0.1	1.17e-01
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF 3.08	X 0.1	3.08e-01
1,2,3,4,6,7,8-HpCDF 11.38	X 0.01	1.14e-01
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF 19.04	X 0.001	1.90e-02

Total: 4.532e+00 8/26/99
4.332 E+00

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

USEPA - ITD

AATS/SWOK, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID

99284158

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Client Name: E&E-WA

Lab Sample ID: 39334.06RE

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 10.46 g or mL: g

Sample Receipt Date: 07/09/99

Initial Calibration Date: 05/13/99

Ext. Date: 07/30/99

Instrument ID: 70S

Analysis Date: 10-AUG-99 Time: 20:11:26

GC Column ID: SP2331

Extract Volume (uL): 20.0

Sample Data Filename: S104247#5

Injection Volume (uL): 2.0

Blank Data Filename: S104247#2

Dilution Factor: 1

Cal. Ver. Data Filename: S104247#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.42

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	EMPC	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDF	*	3.6197	*	*	*
INT. STANDARD	SPIKE CONCENTRATION	CONCENT. FOUND	RECOV. %	ION ABUND. RATIO (2)	RRT (1)
13C-2,3,7,8-TCDF	1000	656.63	65.66	0.74	1.16
CLEANUP STANDARD					
37C1-2,3,7,8-TCDD	800	447.84	55.98		0.99

NOTE: Concentrations, EMPCs, and EDL are calculated on a dry weight basis.

TCDDFlI

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284159

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39334.09

Client Name: E&E-WA

Sample Wt/Vol: 14.51 g or mL: g

Matrix (aqueous/solid/leachate): solid

Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-09-99

Instrument ID: AutoSpec

Ext. Date: 07-09-99

GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0

Sample Data Filename: A105224#4

Analysis Date: 28-JUL-99 Time: 23:43:27

Blank Data Filename: A105224#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105222#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 15.47

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.553	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.694	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	1.205	U	*	*	0.74
1,2,3,6,7,8-HxCDD	2.254	0.811	U	2.54	1.000	1.10
1,2,3,7,8,9-HxCDD	*	0.930	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	106.124	2.437	U	1.10	1.000	1.14
OCDD	1255.142	0.681	U	0.93	1.000	1.11
2,3,7,8-TCDF	*	0.341	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.524	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.530	U	*	*	0.97
1,2,3,4,7,8-HxCDF	4.127	1.525	U	1.30	1.000	1.03
1,2,3,6,7,8-HxCDF	*	1.144	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	1.810	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	1.337	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	23.511	1.176	U	0.96	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	1.656	U	*	*	1.02
OCDF	35.485	1.409	U	0.90	1.003	1.21
Total Tetra-Dioxins	*	0.553	U			
Total Penta-Dioxins	*	0.694	U			
Total Hexa-Dioxins	*	0.811	U			
Total Hepta-Dioxins	226.210	2.437				
Total Tetra-Furans	5.631	0.341				
Total Penta-Furans	18.736	0.530				
Total Hexa-Furans	7.690	1.144				
Total Hepta-Furans	23.511	1.176				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

8/26/99

10

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284159

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39334

Client Name: E&E-WA

Lab Sample ID: 39334.09

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 14.51 g or mL: g

Sample Receipt Date: 07-09-99

Initial Calibration Date: 07-01-99

Ext. Date: 07-09-99 Shift:

Instrument ID: AutoSpec

Analysis Date: 28-JUL-99 Time: 23:43:27

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105224#4

Injection Volume(ul): 2.00

Blank Data Filename: A105224#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105222#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 15.47

	CONCENTRATION	TEF (1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	2.25	X 0.1	2.25e-01
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	106.12	X 0.01	1.06e+00
OCDD	1255.14	X 0.001	1.26e+00
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	4.13	X 0.1	4.13e-01
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	23.51	X 0.01	2.35e-01
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	35.48	X 0.001	3.55e-02

Total: 3.225e+00

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

6/90

107

USEPA - ITD

Page 6 of 7

AATS/SWOK, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID
99284159

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Client Name: E&E-WA

Lab Sample ID: 39334.09RE

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 10.18 g or mL: g

Sample Receipt Date: 07/09/99

Initial Calibration Date: 05/13/99

Ext. Date: 07/30/99

Instrument ID: 70S

Analysis Date: 10-AUG-99 Time: 20:48:18

GC Column ID: SP2331

Extract Volume (uL): 20.0

Sample Data Filename: S104247#6

Injection Volume (uL): 2.0

Blank Data Filename: S104247#2

Dilution Factor: 1

Cal. Ver. Data Filename: S104247#1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 15.47

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	EMPC	ION ABUND. RATIO (1)	RRT (1)
2,3,7,8-TCDF	*	3.0769	*	*	*
INT. STANDARD	SPIKE CONCENTRATION	CONCENT. FOUND	RECOV. %	ION ABUND. RATIO (2)	RRT (1)
13C-2,3,7,8-TCDF	1000	467.94	46.79	0.77	1.16
CLEANUP STANDARD					
37Cl-2,3,7,8-TCDD	800	444.47	55.56		0.99

NOTE: Concentrations, EMPCs, and EDL are calculated on a dry weight basis.

TCDDF1I

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284160

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39334.10

Client Name: E&E-WA Sample Wt/Vol: 17.85 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-09-99 Instrument ID: AutoSpec

Ext. Date: 07-09-99 GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0 Sample Data Filename: A105224#5

Analysis Date: 29-JUL-99 Time: 00:32:13 Blank Data Filename: A105224#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105222#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 10.53

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.308	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.340	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.413	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.278	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.319	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	1.333	0.259	X	0.82	1.000	1.14
OCDD	8.960	0.334		0.87	1.000	1.11
2,3,7,8-TCDF	*	0.148	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.254	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.257	U	*	*	0.97
1,2,3,4,7,8-HxCDF	1.521	0.247	X	1.05	1.000	1.03
1,2,3,6,7,8-HxCDF	*	0.185	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.294	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.217	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	0.553	0.160		1.10	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.225	U	*	*	1.02
OCDF	*	0.423	U	*	*	1.21
Total Tetra-Dioxins	*	0.308	U			
Total Penta-Dioxins	*	0.340	U			
Total Hexa-Dioxins	*	0.278	U			
Total Hepta-Dioxins	0.932	0.259				
Total Tetra-Furans	1.866	0.148				
Total Penta-Furans	7.346	0.257				
Total Hexa-Furans	1.252	0.185				
Total Hepta-Furans	0.553	0.160				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

①
8/26/99

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284160

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39334
Client Name: E&E-WA Lab Sample ID: 39334.10
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 17.85 g or mL: g
Sample Receipt Date: 07-09-99 Initial Calibration Date: 07-01-99
Ext. Date: 07-09-99 Shift: Instrument ID: AutoSpec
Analysis Date: 29-JUL-99 Time: 00:32:13 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105224#5
Injection Volume(ul): 2.00 Blank Data Filename: A105224#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105222#14
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 10.53

CONCENTRATION	TEF (1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD *	X 0.1	*
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD 1.33	X 0.01	1.33e-02
OCDD 8.96	X 0.001	8.96e-03
2,3,7,8-TCDF *	X 0.1	*
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF 1.52	X 0.1	1.52e-01
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF 0.55	X 0.01	5.53e-03
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF *	X 0.001	*

Total: 1.799e-01

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

6/90



Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284161

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39334.11

Client Name: E&E-WA

Sample Wt/Vol: 1050 g or mL: mL

Matrix (aqueous/solid/leachate): aqueous Initial Calibration Date: 07/22/99

Sample Receipt Date: 07/09/99

Instrument ID: AutoSpec

Ext. Date: 07/14/99

GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 1.0

Sample Data Filename: A175222#7

Analysis Date: 28-JUL-99 Time: 14:26:01

Blank Data Filename: A105222#4

Dilution Factor: 1

Cal. Ver. Data Filename: A105222#2

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	4.476	U	*	*	1.37
1,2,3,7,8-PeCDD	*	4.648	U	*	*	1.17
1,2,3,4,7,8-HxCDD	*	3.617	U	*	*	1.10
1,2,3,6,7,8-HxCDD	*	3.164	U	*	*	0.99
1,2,3,7,8,9-HxCDD	*	3.182	U	*	*	1.09
1,2,3,4,6,7,8-HpCDD	*	9.886	U	*	*	1.21
OCDD	13.882	6.829	U	1.43	1.000	1.28
2,3,7,8-TCDF	*	4.522	U	*	*	1.15
1,2,3,7,8-PeCDF	*	2.242	U	*	*	1.01
2,3,4,7,8-PeCDF	*	2.237	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	2.998	U	*	*	1.16
1,2,3,6,7,8-HxCDF	*	2.826	U	*	*	1.08
1,2,3,7,8,9-HxCDF	*	4.309	U	*	*	1.14
2,3,4,6,7,8-HxCDF	*	3.139	U	*	*	1.13
1,2,3,4,6,7,8-HpCDF	*	4.390	U	*	*	1.35
1,2,3,4,7,8,9-HpCDF	*	6.411	U	*	*	1.40
OCDF	*	3.598	U	*	*	1.45
Total Tetra-Dioxins	*	4.476	U			
Total Penta-Dioxins	*	4.648	U			
Total Hexa-Dioxins	*	3.164	U			
Total Hepta-Dioxins	*	9.886	U			
Total Tetra-Furans	*	4.522	U			
Total Penta-Furans	*	2.237	U			
Total Hexa-Furans	*	2.826	U			
Total Hepta-Furans	*	4.390	U			

- (1) Qualifier U indicates not detected; The X & I indicates EMPC. The C needs value from second column analysis. The B indicates possible blank contamination.
- (2) RRTs and ion ratios are specified in Tables 2 and 9, Method 1613.

USEPA, ITD
1DFBPCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284161

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39334

Client Name: E&E-WA

Lab Sample ID: 39334.11

Matrix (aqueous/solid/leachate): aqueous

Sample Wt/Vol: 1050 g or mL: mL

Sample Receipt Date: 07/09/99

Initial Calibration Date: 07/22/99

Ext. Date: 07/14/99 Shift:

Instrument ID: AutoSpec

Analysis Date: 28-JUL-99 Time: 14:26:01

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105222#7

Injection Volume(ul): 2.00

Blank Data Filename: A105222#4

Dilution Factor: 1

Cal. Ver. Data Filename: A105222#2

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	X 1.0	*
1,2,3,7,8-PeCDD	X 0.5	*
1,2,3,4,7,8-HxCDD	X 0.1	*
1,2,3,6,7,8-HxCDD	X 0.1	*
1,2,3,7,8,9-HxCDD	X 0.1	*
1,2,3,4,6,7,8-HpCDD	X 0.01	*
OCDD	X 0.001	1.39e-02
2,3,7,8-TCDF	X 0.1	*
1,2,3,7,8-PeCDF	X 0.05	*
2,3,4,7,8-PeCDF	X 0.5	*
1,2,3,4,7,8-HxCDF	X 0.1	*
1,2,3,6,7,8-HxCDF	X 0.1	*
1,2,3,7,8,9-HxCDF	X 0.1	*
2,3,4,6,7,8-HxCDF	X 0.1	*
1,2,3,4,6,7,8-HpCDF	X 0.01	*
1,2,3,4,7,8,9-HpCDF	X 0.01	*
OCDF	X 0.001	*

*Total: 1.388e-02

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284177

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39334.12

Client Name: E&E-WA

Sample Wt/Vol: 15.31 g or mL: g

Matrix (aqueous/solid/leachate): solid

Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-09-99

Instrument ID: AutoSpec

Ext. Date: 07-09-99

GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0

Sample Data Filename: A105224#6

Analysis Date: 29-JUL-99 Time: 01:20:58

Blank Data Filename: A105224#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105222#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 9.70

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.369	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.660	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	1.097	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.739	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.847	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	44.210	1.439	U	1.20	1.000	1.14
OCDD	373.338	1.934	U	0.96	1.000	1.11
2,3,7,8-TCDF	*	0.288	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.655	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.663	U	*	*	0.97
1,2,3,4,7,8-HxCDF	*	0.571	U	*	*	1.03
1,2,3,6,7,8-HxCDF	*	0.428	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.678	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.500	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	*	0.857	U	*	*	1.44
1,2,3,4,7,8,9-HpCDF	*	1.207	U	*	*	1.02
OCDF	8.921	1.405	U	1.18	1.004	1.21
Total Tetra-Dioxins	*	0.369	U			
Total Penta-Dioxins	*	0.660	U			
Total Hexa-Dioxins	*	0.739	U			
Total Hepta-Dioxins	35.585	1.439				
Total Tetra-Furans	0.959	0.288				
Total Penta-Furans	19.624	0.663				
Total Hexa-Furans	*	0.428	U			
Total Hepta-Furans	5.810	0.857				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

①
0126/99

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284177

Lab Name: SOUTHWEST LAB. OF OKLAHOMA
Client Name: E&E-WA
Matrix (aqueous/solid/leachate): solid
Sample Receipt Date: 07-09-99
Ext. Date: 07-09-99 Shift:
Analysis Date: 29-JUL-99 Time: 01:20:58
Extract Volume(ul): 20.0
Injection Volume(ul): 2.00
Dilution Factor: 1

Episode No.: 39334
Lab Sample ID: 39334.12
Sample wt/Vol: 15.31 g or mL: g
Initial Calibration Date: 07-01-99
Instrument ID: AutoSpec
GC Column ID: DB-5
Sample Data Filename: A105224#6
Blank Data Filename: A105224#2
Cal. Ver. Data Filename: A105222#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 9.70

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	X 1.0	*
1,2,3,7,8-PeCDD	X 0.5	*
1,2,3,4,7,8-HxCDD	X 0.1	*
1,2,3,6,7,8-HxCDD	X 0.1	*
1,2,3,7,8,9-HxCDD	X 0.1	*
1,2,3,4,6,7,8-HpCDD	X 0.01	4.42e-01
OCDD	X 0.001	3.73e-01
2,3,7,8-TCDF	X 0.1	*
1,2,3,7,8-PeCDF	X 0.05	*
2,3,4,7,8-PeCDF	X 0.5	*
1,2,3,4,7,8-HxCDF	X 0.1	*
1,2,3,6,7,8-HxCDF	X 0.1	*
1,2,3,7,8,9-HxCDF	X 0.1	*
2,3,4,6,7,8-HxCDF	X 0.1	*
1,2,3,4,6,7,8-HpCDF	X 0.01	*
1,2,3,4,7,8,9-HpCDF	X 0.01	*
OCDF	X 0.001	8.92e-03
8.92		

Total: 8.244e-01

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

6/90

2/24/99

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284178

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39334.13

Client Name: E&E-WA

Sample Wt/Vol: 17.04 g or mL: g

Matrix (aqueous/solid/leachate): solid

Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-09-99

Instrument ID: AutoSpec

Ext. Date: 07-09-99

GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0

Sample Data Filename: A105224#7

Analysis Date: 29-JUL-99 Time: 02:09:45

Blank Data Filename: A105224#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105222#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 18.00

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.413	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.930	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	1.120	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.754	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.864	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	55.006	1.005		1.04	1.000	1.14
OCDD	649.029	0.837	U	0.95	1.000	1.11
2,3,7,8-TCDF	*	0.328	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.423	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.428	U	*	*	0.97
1,2,3,4,7,8-HxCDF	1.706	1.021	U	1.06	1.001	1.03
1,2,3,6,7,8-HxCDF	*	0.766	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	1.212	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.895	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	7.549	0.642		0.97	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.904	U	*	*	1.02
OCDF	28.630	1.216		0.96	1.003	1.21
Total Tetra-Dioxins	*	0.413	U			
Total Penta-Dioxins	*	0.930	U			
Total Hexa-Dioxins	5.664	0.754				
Total Hepta-Dioxins	124.462	1.005				
Total Tetra-Furans	*	0.328	U			
Total Penta-Furans	*	0.428	U			
Total Hexa-Furans	3.403	0.766				
Total Hepta-Furans	7.549	0.642				

- (1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

8/26/99

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284178

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39334

Client Name: E&E-WA

Lab Sample ID: 39334.13

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 17.04 g or mL: g

Sample Receipt Date: 07-09-99

Initial Calibration Date: 07-01-99

Ext. Date: 07-09-99 Shift:

Instrument ID: AutoSpec

Analysis Date: 29-JUL-99 Time: 02:09:45

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105224#7

Injection Volume(ul): 2.00

Blank Data Filename: A105224#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105222#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 18.00

CONCENTRATION

TEF(1)

TEF-ADJUSTED
CONCENTRATION

2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	55.01	X 0.01	5.50e-01
OCDD	649.03	X 0.001	6.49e-01
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	1.71	X 0.1	1.71e-01
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	7.55	X 0.01	7.55e-02
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	28.63	X 0.001	2.86e-02

Total: 1.474e+00

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

6/90



Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284179

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39334

Lab Code: SWL Case No.:

SDG No.:

Lab Sample ID: 39334.14

Client Name: E&E-WA

Sample Wt/Vol: 17.22 g or mL: g

Matrix (aqueous/solid/leachate): solid

Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-09-99

Instrument ID: AutoSpec

Ext. Date: 07-09-99

GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0

Sample Data Filename: A105224#8

Analysis Date: 29-JUL-99 Time: 02:58:32

Blank Data Filename: A105224#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105222#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 8.50

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.370	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.303	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.457	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.308	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.353	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	2.489	0.590	J	1.26	1.000	1.14
OCDD	34.759	0.607		0.90	1.000	1.11
2,3,7,8-TCDF	*	0.421	U J	*	*	1.15
1,2,3,7,8-PeCDF	*	0.208	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.210	U	*	*	0.97
1,2,3,4,7,8-HxCDF	*	0.348	U	*	*	1.03
1,2,3,6,7,8-HxCDF	*	0.261	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.413	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.305	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	0.591	0.251		1.12	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.354	U	*	*	1.02
OCDF	1.357	0.474	J	1.09	1.004	1.21
Total Tetra-Dioxins	*	0.370	U			
Total Penta-Dioxins	*	0.303	U			
Total Hexa-Dioxins	*	0.308	U			
Total Hepta-Dioxins	2.835	0.590				
Total Tetra-Furans	*	0.421	U			
Total Penta-Furans	*	0.210	U			
Total Hexa-Furans	*	0.261	U			
Total Hepta-Furans	2.193	0.251				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284179

Lab Name: SOUTHWEST LAB. OF OKLAHOMA
Client Name: E&E-WA
Matrix (aqueous/solid/leachate): solid
Sample Receipt Date: 07-09-99
Ext. Date: 07-09-99 Shift:
Analysis Date: 29-JUL-99 Time: 02:58:32
Extract Volume(ul): 20.0
Injection Volume(ul): 2.00
Dilution Factor: 1

Episode No.: 39334
Lab Sample ID: 39334.14
Sample Wt/Vol: 17.22 g or mL: g
Initial Calibration Date: 07-01-99
Instrument ID: AutoSpec
GC Column ID: DB-5
Sample Data Filename: A105224#8
Blank Data Filename: A105224#2
Cal. Ver. Data Filename: A105222#14

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 8.50

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	X 1.0	*
1,2,3,7,8-PeCDD	X 0.5	*
1,2,3,4,7,8-HxCDD	X 0.1	*
1,2,3,6,7,8-HxCDD	X 0.1	*
1,2,3,7,8,9-HxCDD	X 0.1	*
1,2,3,4,6,7,8-HpCDD	X 0.01	2.49e-02
OCDD	X 0.001	3.48e-02
2,3,7,8-TCDF	X 0.1	*
1,2,3,7,8-PeCDF	X 0.05	*
2,3,4,7,8-PeCDF	X 0.5	*
1,2,3,4,7,8-HxCDF	X 0.1	*
1,2,3,6,7,8-HxCDF	X 0.1	*
1,2,3,7,8,9-HxCDF	X 0.1	*
2,3,4,6,7,8-HxCDF	X 0.1	*
1,2,3,4,6,7,8-HpCDF	X 0.01	5.91e-03
1,2,3,4,7,8,9-HpCDF	X 0.01	*
OCDF	X 0.001	1.36e-03

Total: 6.691e-02

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

6/90





ecology and environment, inc.

International Specialists in the Environment

1500 First Interstate Center, 999 Third Avenue
Seattle, Washington 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: August 19, 1999
TO: Mark Woodke, START-Project Manager, Seattle, WA
FROM: Leatta Dahlhoff, Chemist, E & E, Seattle, WA *LDH*
THRU: David Ikeda, Chemist, E & E, Seattle, WA *DI*
SUBJ: Organic Data Quality Assurance Review, Wenatchee Brownfields Site,
Wenatchee, Washington
REF: TDD: 98-11-0007 PAN: CK-07-01-SI-DM

The data quality assurance review of one water and six soil samples collected from the Wenatchee Brownfields site located in Wenatchee, Washington, has been completed. Analysis for Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) following EPA Method 8290 for soil samples and EPA Method 1613B for water samples were performed by Southwest Laboratory of Oklahoma, Broken Arrow, Oklahoma.

The samples were numbered:

99284183 99284184 99284187 99284190 99284195 99284196 99284197

Data Qualifications:

I Holding Time: Acceptable.

The samples were maintained at 4°C ($\pm 2^\circ\text{C}$) and were collected July 8 and 9, 1999, were extracted on July 16, 1999, and were analyzed by July 30, 1999, therefore meeting QC criteria of less than 30 days for soil samples and 7 days for water samples between collection and extraction and less than 45 days for soil samples and 40 days for water samples between extraction and analysis.

II Instrument Performance: Acceptable.

A performance check solution was analyzed at the beginning of each 12-hour sample analysis period. The minimum resolving power of 10,000 was attained. The valley between 2,3,7,8-TCDD and the peaks representing all other TCDD isomers was $\leq 25\%$ in the window defining mix solution. All ion abundance and retention time criteria were met in all calibration standards.

III Calibration

A. Initial Calibration: Acceptable.

A 5-point initial calibration was performed with all Relative Standard Deviations (RSDs) less than 20 % for the unlabeled target analytes and less than 30 % for the labeled internal standards. All ion abundance ratios, signal-to-noise (s/n) ratios, and retention times were within method QC limits.

B. Continuing Calibration: Acceptable.

A continuing calibration was analyzed at the start of each 12-hour period. The % valley between 2,3,7,8-TCDD and the closest TCDF isomer was less than 25 %. The retention times for all of the furan and dioxin homologues were established and properly labeled from the first to the last eluters. All ion abundance and s/n ratios were within method QC limits. All % differences were less than 30 % for the labeled internal standards and less than 20 % for the unlabeled target analytes.

IV Compound Quantitation and Detection Limits: Acceptable.

All of the samples were analyzed at the project required quantitation limits. Some of the totals reported were corrected by the reviewer due to adjustments that had to be made because of contamination in a blank or miscalculations. All of the compounds were calculated off the primary column, DB5, except for TCDF in sample 99284197. The TCDF sample result for 97284197 was reported from the second analysis. The TEF factor was also corrected by the reviewer because TCDF was not detected in the sample. All of the detected target compounds were within the linear calibration range.

V Blanks: Satisfactory.

The frequency of analysis of laboratory blanks was met. Octachlorodibenzodioxin (OCDD) was detected in the method blank DFBLK2. The OCDD detected in the associated sample 99284195 (9.70 pg/L) was qualified as non-detect, "U", due to the concentration being less than 5 times the value in the blank (8.344 pg/L). The TEF factor was also corrected by the reviewer because of contamination in the blank.

VI Analytical Sequence: Acceptable.

All of the standards, blanks, samples and QC samples were analyzed in accordance with the method-specified analytical sequence.

VII Internal Standards: Acceptable.

All internal standard ion abundance ratios were within method QC limits. All internal standard results were within the QC recovery limits of 40 % to 135 %.

VI Surrogate Recoveries: Not Applicable.

Surrogates were not required for this method. Clean-up standard 37Cl-2,3,7,8-TCDD was added to all samples and QC samples. The clean-up standard recoveries were acceptable.

VII Duplicate Sample Analysis: Not Applicable.

Duplicate sample analyses were not performed and no action was taken on this basis.

VIII Matrix Spike/Matrix Spike Duplicates: Not Performed.

Matrix spike analyses were not performed. The laboratory blank spike recoveries were within 50 % to 150 %. These recoveries were acceptable in the reviewers' professional judgment.

IX Compound Identification: Acceptable.

For analytes with isotopically labeled standards, the retention times of the sample quantitation ions maximized within -1 to +3 seconds of the isotopically labeled standard ions. Several samples had ratios for the quantitation ion integrated ion currents outside the method QC limits, the laboratory qualified these sample results as estimated maximum possible concentrations (X or I). The reviewer changed the laboratory qualifiers "X" and "I" to "J" (estimated).

X Laboratory Control Sample (LCS) Analyses: Acceptable.

A spiked blank was extracted and analyzed with each sample delivery group (SDG). The recoveries for the target compounds and internal standards for the LCS met the acceptance criteria. None of the data were qualified on this basis.

XI Laboratory Contact: Required

The laboratory was contacted on August 19, 1999, for a discrepancy with the Total TEF-adjusted concentration value for sample 99284184. The value on the Form I states 0.1807, however, the value calculated by the reviewer was 0.10721. The laboratory resubmitted a corrected TEF summary form.

XII Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in EPA Method 8290 and the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures" (EPA/540/G-90/004). Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits or because quality control criteria limits were not met.

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284183

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39412

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39412.01

Client Name: E&E-WA Sample Wt/Vol: 10.32 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-14-99 Instrument ID: AutoSpec

Ext. Date: 07-16-99 GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0 Sample Data Filename: A105231#5

Analysis Date: 30-JUL-99 Time: 02:19:42 Blank Data Filename: A105231#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105229#6

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 9.14

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.408	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.578	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.617	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.415	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.476	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	*	0.511	U	*	*	1.14
OCDD	12.649	0.796		0.96	1.000	1.11
2,3,7,8-TCDF	*	0.305	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.232	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.235	U	*	*	0.97
1,2,3,4,7,8-HxCDF	1.012 J	0.454	U	1.32	1.000	1.03
1,2,3,6,7,8-HxCDF	*	0.340	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.539	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.398	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	*	0.505	U	*	*	1.44
1,2,3,4,7,8,9-HpCDF	*	0.712	U	*	*	1.02
OCDF	*	0.634	U	*	*	1.21
Total Tetra-Dioxins	*	0.408	U			
Total Penta-Dioxins	*	0.578	U			
Total Hexa-Dioxins	*	0.415	U			
Total Hepta-Dioxins	1.604	0.511				
Total Tetra-Furans	1.291	0.305				
Total Penta-Furans	6.517	0.235				
Total Hexa-Furans	2.461	0.340				
Total Hepta-Furans	*	0.505	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

880
8/19/99
2

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284183

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39412
Client Name: E&E-WA Lab Sample ID: 39412.01
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 10.32 g or mL: g
Sample Receipt Date: 07-14-99 Initial Calibration Date: 07-01-99
Ext. Date: 07-16-99 Shift: Instrument ID: AutoSpec
Analysis Date: 30-JUL-99 Time: 02:19:42 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105231#5
Injection Volume(ul): 2.00 Blank Data Filename: A105231#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105229#6
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 9.14

CONCENTRATION	TEF (1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD *	X 0.1	*
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD *	X 0.01	*
OCDD 12.65	X 0.001	1.26e-02
2,3,7,8-TCDF *	X 0.1	*
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF 1.01	X 0.1	1.01e-01
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF *	X 0.01	*
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF *	X 0.001	*

Total: 1.139e-01

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

6/90

JED
8/19/99
3

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.

99284184

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39412

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39412.02

Client Name: E&E-WA Sample Wt/Vol: 10.47 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-14-99 Instrument ID: AutoSpec

Ext. Date: 07-16-99 GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0 Sample Data Filename: A105212#9

Analysis Date: 23-JUL-99 Time: 15:56:59 Blank Data Filename: A105212#7

Dilution Factor: 1 Cal. Ver. Data Filename: A105212#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 14.35

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.164	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.221	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.249	U	*	*	0.74
1,2,3,6,7,8-HxCDD	0.295	0.167		1.30	1.000	1.10
1,2,3,7,8,9-HxCDD	*	0.192	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	3.448	0.282		1.16	1.000	1.14
OCDD	37.974	0.233		0.89	1.000	1.11
2,3,7,8-TCDF	*	0.146	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.163	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.165	U	*	*	0.97
1,2,3,4,7,8-HxCDF	*	0.168	U	*	*	1.03
1,2,3,6,7,8-HxCDF	*	0.126	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.199	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.147	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	0.405	0.092	X	1.99	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.130	U	*	*	1.02
OCDF	1.157	0.192		0.81	1.004	1.21
Total Tetra-Dioxins	*	0.164	U			
Total Penta-Dioxins	*	0.221	U			
Total Hexa-Dioxins	0.295	0.167				
Total Hepta-Dioxins	5.838	0.282				
Total Tetra-Furans	*	0.146	U			
Total Penta-Furans	*	0.165	U			
Total Hexa-Furans	0.496	0.126				
Total Hepta-Furans	*	0.092	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

880
8/19/99
26

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284184

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39412
Client Name: E&E-WA Lab Sample ID: 39412.02
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 10.47 g or mL: g
Sample Receipt Date: 07-14-99 Initial Calibration Date: 07-01-99
Ext. Date: 07-16-99 Shift: Instrument ID: AutoSpec
Analysis Date: 23-JUL-99 Time: 15:56:59 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105212#9
Injection Volume(ul): 2.00 Blank Data Filename: A105212#7
Dilution Factor: 1. Cal. Ver. Data Filename: A105212#2
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 14.35

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD 0.30	X 0.1	2.95e-02
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD 3.45	X 0.01	3.45e-02
OCDD 37.97	X 0.001	3.80e-02
2,3,7,8-TCDF *	X 0.1	*
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF *	X 0.1	*
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF 0.40	X 0.01	4.05e-03
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF 1.16	X 0.001	1.16e-03

*Total: 1.807e-01

1.07e-1

9/19/99

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update(EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

JHP
8/28/99
9/2/99

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET

Use for Sample and Blank Results 99284187

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39412

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39412.03

Client Name: E&E-WA Sample Wt/Vol: 10.10 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-14-99 Instrument ID: AutoSpec

Ext. Date: 07-16-99 GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0 Sample Data Filename: A105231#6

Analysis Date: 30-JUL-99 Time: 03:08:27 Blank Data Filename: A105231#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105229#6

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.57

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.273	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.358	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.466	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.313	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.359	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	2.931	0.388		1.06	1.001	1.14
OCDD	18.653	0.416		0.85	1.000	1.11
2,3,7,8-TCDF	*	0.265	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.214	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.217	U	*	*	0.97
1,2,3,4,7,8-HxCDF	0.997	0.364	U	1.39	1.000	1.03
1,2,3,6,7,8-HxCDF	*	0.273	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.432	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.319	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	1.364	0.302		1.15	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.426	U	*	*	1.02
OCDF	1.488	0.425		0.89	1.003	1.21
Total Tetra-Dioxins	*	0.273	U			
Total Penta-Dioxins	*	0.358	U			
Total Hexa-Dioxins	0.771	0.313				
Total Hepta-Dioxins	5.500	0.388				
Total Tetra-Furans	3.905	0.265				
Total Penta-Furans	12.647	0.217				
Total Hexa-Furans	4.650	0.273				
Total Hepta-Furans	1.364	0.302				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

49

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284187

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39412
Client Name: E&E-WA Lab Sample ID: 39412.03
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 10.10 g or mL: g
Sample Receipt Date: 07-14-99 Initial Calibration Date: 07-01-99
Ext. Date: 07-16-99 Shift: Instrument ID: AutoSpec
Analysis Date: 30-JUL-99 Time: 03:08:27 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105231#6
Injection Volume(ul): 2.00 Blank Data Filename: A105231#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105229#6
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.57

	CONCENTRATION	TEF (1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	2.93	X 0.01	2.93e-02
OCDD	18.65	X 0.001	1.87e-02
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	1.00	X 0.1	9.97e-02
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	1.36	X 0.01	1.36e-02
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	1.49	X 0.001	1.49e-03

Total: 1.626e-01

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

6/90

8/19/99

50

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284190

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39412

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39412.04

Client Name: E&E-WA

Sample Wt/Vol: 10.04 g or mL: g

Matrix (aqueous/solid/leachate): solid

Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-14-99

Instrument ID: AutoSpec

Ext. Date: 07-16-99

GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0

Sample Data Filename: A105231#7

Analysis Date: 30-JUL-99 Time: 03:57:14

Blank Data Filename: A105231#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105229#6

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 4.74

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.293	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.367	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.325	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.219	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.251	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	*	0.315	U	*	*	1.14
OCDD	4.186	0.664		0.93	1.000	1.11
2,3,7,8-TCDF	*	0.181	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.180	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.182	U	*	*	0.97
1,2,3,4,7,8-HxCDF	*	0.232	U	*	*	1.03
1,2,3,6,7,8-HxCDF	*	0.174	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.275	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.203	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	*	0.211	U	*	*	1.44
1,2,3,4,7,8,9-HpCDF	*	0.297	U	*	*	1.02
OCDF	*	0.377	U	*	*	1.21
Total Tetra-Dioxins	*	0.293	U			
Total Penta-Dioxins	*	0.367	U			
Total Hexa-Dioxins	*	0.219	U			
Total Hepta-Dioxins	*	0.315	U			
Total Tetra-Furans	*	0.181	U			
Total Penta-Furans	*	0.182	U			
Total Hexa-Furans	*	0.174	U			
Total Hepta-Furans	*	0.211	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

280
8/19/99

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284190

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39412
Client Name: E&E-WA Lab Sample ID: 39412.04
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 10.04 g or mL: g
Sample Receipt Date: 07-14-99 Initial Calibration Date: 07-01-99
Ext. Date: 07-16-99 Shift: Instrument ID: AutoSpec
Analysis Date: 30-JUL-99 Time: 03:57:14 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105231#7
Injection Volume(ul): 2.00 Blank Data Filename: A105231#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105229#6
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 4.74

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD *	X 0.1	*
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD *	X 0.01	*
OCDD 4.19	X 0.001	4.19e-03
2,3,7,8-TCDF *	X 0.1	*
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF *	X 0.1	*
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF *	X 0.01	*
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF *	X 0.001	*

Total: 4.186e-03

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update(EPA/625/3-89/016, March 1989.'

6/90

JEN
8/19/99

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284195

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39412

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39412.05

Client Name: E&E-WA Sample Wt/Vol: 1000 g or mL: mL

Matrix (aqueous/solid/leachate): aqueous Initial Calibration Date: 07/01/99

Sample Receipt Date: 07/14/99 Instrument ID: AutoSpec

Ext. Date: 07/16/99 GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0 Sample Data Filename: A105216#12

Analysis Date: 27-JUL-99 Time: 19:27:47 Blank Data Filename: A105216#3

Dilution Factor: 1 Cal. Ver. Data Filename: A105216#1

Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual.	ION ABUND. (1)	RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	4.128	U	*	*	*	1.48
1,2,3,7,8-PeCDD	*	3.268	U	*	*	*	1.11
1,2,3,4,7,8-HxCDD	*	4.120	U	*	*	*	0.74
1,2,3,6,7,8-HxCDD	*	2.774	U	*	*	*	1.10
1,2,3,7,8,9-HxCDD	*	3.180	U	*	*	*	0.96
1,2,3,4,6,7,8-HpCDD	*	5.144	U	*	*	*	1.14
OCDD	9.701	3.744	X	0.92	1.001	*	1.11
2,3,7,8-TCDF	*	4.340	U	*	*	*	1.15
1,2,3,7,8-PeCDF	*	2.352	U	*	*	*	0.98
2,3,4,7,8-PeCDF	*	2.378	U	*	*	*	0.97
1,2,3,4,7,8-HxCDF	*	2.432	U	*	*	*	1.03
1,2,3,6,7,8-HxCDF	*	1.824	U	*	*	*	1.38
1,2,3,7,8,9-HxCDF	*	2.888	U	*	*	*	0.87
2,3,4,6,7,8-HxCDF	*	2.133	U	*	*	*	1.18
1,2,3,4,6,7,8-HpCDF	*	1.652	U	*	*	*	1.44
1,2,3,4,7,8,9-HpCDF	*	2.327	U	*	*	*	1.02
OCDF	*	3.998	U	*	*	*	1.21
Total Tetra-Dioxins	*	4.128	U				
Total Penta-Dioxins	*	3.268	U				
Total Hexa-Dioxins	*	2.774	U				
Total Hepta-Dioxins	*	5.144	U				
Total Tetra-Furans	*	4.340	U				
Total Penta-Furans	*	2.378	U				
Total Hexa-Furans	*	1.824	U				
Total Hepta-Furans	*	1.652	U				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

8/19/99
89

Initial Calibrations - Acceptable

One VOA, two SVOA and three Pest/PCB initial calibrations were performed. The initial calibrations met the SOW technical acceptance criteria.

Continuing Calibration Verification (CCVs) Standards

All of the CCVs met the criteria for frequency of analysis, the minimum response factor, the retention time and the percent differences (%Ds) criteria with the following exceptions:

- The %Ds for the following VOA compounds exceeded the QC limits and the associated results were qualified accordingly:

Date /Time of Analysis	Inst. i.d.	Compound	%D	Qualifier Detect/Non-detect
7/13/99 (08:31)	51	chloromethane 1,2-dichloroethane 1,2-dichloroethane-d4 (surr.)	-42.8 29.2 42.4	J/UJ J/none none
7/15/99 (10:10)	51	1,2-dichloroethane 1,1,1-trichloroethane 1,2-dichloroethane-d4 (surr.)	26.3 25.3 56.6	J/none none none

- The %Ds for the following SVOA compounds exceeded the QC limits and the associated results were qualified accordingly:

Date /Time of Analysis	Inst. i.d.	Compound	%D	Qualifier Detect/Non-detect
7/12/99 (08:06)	66	hexachlorobenzene 3,3'-dichlorobenzidine 2,4,6-tribromophenol (surr.)	27.5 -35.5 32.1	J/none J/UJ none
7/12/99 (22:01)	66	4-nitrophenol 4-bromophenyl-phenylether hexachlorobenzene terphenyl-d14 (surr.) 2,4,6-tribromophenol (surr.)	-37.4 27.7 30.1 25.8 36.6	J/UJ J/none J/none none none
7/13/99 (11:13)	66	pentachlorophenol 3,3'-dichlorobenzidine 2,4,6-tribromophenol (surr.)	-28.8 48.4 33.0	J/UJ J/none none
7/14/99 (10:50)	66	2,4-dinitrophenol 3,3'-dichlorobenzidine	34.6 28.2	J/none J/none
7/15/99 (09:49)	66	2,4-dinitrophenol 2,4-dinitrotoluene 4,6-dinitro-2-methylphenol 2,4,6-tribromophenol (surr.)	31.6 28.4 25.5 34.8	J/none J/none none none
7/14/99 (23:38)	70	pentachlorophenol 2,4,6-tribromophenol (surr.)	-27.5 -28.8	J/UJ none
7/15/99 (18:08)	70	pentachlorophenol	-38.3	J/UJ

LOCKHEED MARTIN
TECHNOLOGY SERVICES GROUP

ESAT Region 10
Lockheed Martin
7411 Beach Drive East
Port Orchard, WA 98366
Phone (360) 871-8723

DELIVERABLE NARRATIVE

DATE: September 3, 1999

TO: Gimna Grepo-Grove, WAM, USEPA, Region 10

THROUGH: Dave Dobb, Team Manager, ESAT Region 10 *DD*

FROM: Chris Pace, Task Lead, ESAT Region 10 *CP*

SUBJECT: Data validation report for the volatile organic (VOA), semi-volatile organic (SVOA) and pesticide/polychlorinated biphenyl (Pest/PCB) analysis of samples from the Wenatchee Brownfields Site. Case: 27165 SDG: JW542

DOC: ESW10-3-1379

PWO: ESW72020

TDF: 3641

WA: 10-99-3-10

CC: Gerald Dodo, RPO, USEPA, Region 10
Project File

The quality assurance (QA) review of 20 soil samples collected from the above referenced site has been completed. These samples were analyzed for VOA (16), SVOA (16) and Pest/PCB (20) in accordance with the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analyses (OLM03.2) by COMPUCEM of Cary, NC.

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the USEPA CLP SOW for Organic Analysis (OLM03.2), the USEPA CLP National Functional Guidelines for Organic Data Review (2/94) and the Region 10 Guidelines for CLP Data Review.

The conclusions presented herein are based on the information provided for the review.

Holding Time - Acceptable

All samples were preserved with ice prior to shipment. All of the samples met the method and technical (40 CFR 136) required holding times for all analyses. The Holding Times Summary listing the pertinent collection, extraction, and analysis dates is attached at the end of this validation report.

Instrument Performance - Acceptable

All of the GC and GC/MS systems met the SOW specified technical acceptance criteria prior to sample analyses, i.e., GC/MS performance checks, GC performance checks, retention times, response factors, and calibrations. The systems remained stable throughout the course of analyses. Instrument blanks were all clean and there were no indications of carry-over.



ecology and environment, inc.

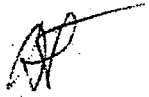
International Specialists in the Environment

5500 First Interstate Center, 999 Third Avenue
Seattle, Washington 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: September 24, 1999

TO: Mark Woodke, Project Manager, E & E, Seattle, WA

FROM: Alasdair Turner, START-Chemist, E & E, Seattle, WA 

SUBJ: Inorganic Data Quality Assurance Summary Review, Wenatchee Brownfields Site, Wenatchee, Washington.

REF: TDD: 98-11-0007 PAN: CK0701SIDM

The data quality assurance summary review of 20 soil samples collected from the Wenatchee Brownfields Site in Wenatchee, Washington has been completed. Analysis for VOCs, SVOC, and Pest/PCBs (EPA CLP SOW for organic analysis OLM03.2) has been completed, and was performed by COMPUCEM, of Cary, NC.

No discrepancies were noted.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284197

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39412
Client Name: E&E-WA Lab Sample ID: 39412.07
Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 10.32 g or mL: g
Sample Receipt Date: 07-14-99 Initial Calibration Date: 07-01-99
Ext. Date: 07-16-99 Shift: Instrument ID: AutoSpec
Analysis Date: 30-JUL-99 Time: 05:34:47 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105231#9
Injection Volume(ul): 2.00 Blank Data Filename: A105231#2
Dilution Factor: 1 Cal. Ver. Data Filename: A105229#6
Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 23.55

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD 2.46	X 0.1	2.46e-01
1,2,3,6,7,8-HxCDD *	X 0.1	*
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD 45.69	X 0.01	4.57e-01
OCDD 698.40	X 0.001	6.98e-01
2,3,7,8-TCDF NO 2.50	X 0.1	2.50e-01 9/2/99
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF 3.48	X 0.1	3.48e-01
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF 10.25	X 0.01	1.03e-01
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF 34.71	X 0.001	3.47e-02

Total: ~~2.126e-01~~ 9/2/99
1.086e00

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

6/90

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET

Use for Sample and Blank Results 99284197

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39412

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39412.07

Client Name: E&E-WA Sample Wt/Vol: 10.32 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-14-99 Instrument ID: AutoSpec

Ext. Date: 07-16-99 GC Column: DB-5

Ext. Vol (ul): 20.0 Inj. Vol (ul): 2.0 Sample Data Filename: A105231#9

Analysis Date: 30-JUL-99 Time: 05:34:47 Blank Data Filename: A105231#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105229#6

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 23.55

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.405	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.696	U	*	*	1.11
1,2,3,4,7,8-HxCDD	2.461 J	0.774	X	0.96	1.001	0.74
1,2,3,6,7,8-HxCDD	*	0.521	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.597	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	45.687	1.005		1.01	1.000	1.14
OCDD	698.404	1.044		0.89	1.000	1.11
2,3,7,8-TCDF	2.498 JW	0.383 U	C	0.72	1.002	1.15
1,2,3,7,8-PeCDF	*	0.458	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.463	U	*	*	0.97
1,2,3,4,7,8-HxCDF	3.476 J	0.830	X JW	1.21	1.000	1.03
1,2,3,6,7,8-HxCDF	*	0.622	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.985	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.727	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	10.253	1.228		1.02	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	1.729	U	*	*	1.02
OCDF	34.709	1.162		0.91	1.004	1.21
Total Tetra-Dioxins	*	0.405	U			
Total Penta-Dioxins	*	0.696	U			
Total Hexa-Dioxins	3.775	0.521				
Total Hepta-Dioxins	89.484	1.005				
Total Tetra-Furans	12.122	0.383				
Total Penta-Furans	32.742	0.463				
Total Hexa-Furans	10.454	0.622				
Total Hepta-Furans	46.088	1.228				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

JJD
8/19/99

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284196

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.: 39412

Client Name: E&E-WA

Lab Sample ID: 39412.06

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 10.42 g or mL: g

Sample Receipt Date: 07-14-99

Initial Calibration Date: 07-01-99

Ext. Date: 07-16-99 Shift:

Instrument ID: AutoSpec

Analysis Date: 30-JUL-99 Time: 04:46:01

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A105231#8

Injection Volume(ul): 2.00

Blank Data Filename: A105231#2

Dilution Factor: 1

Cal. Ver. Data Filename: A105229#6

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.57

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD *	X 1.0	*
1,2,3,7,8-PeCDD *	X 0.5	*
1,2,3,4,7,8-HxCDD *	X 0.1	*
1,2,3,6,7,8-HxCDD *	X 0.1	*
1,2,3,7,8,9-HxCDD *	X 0.1	*
1,2,3,4,6,7,8-HpCDD 4.65	X 0.01	4.65e-02
OCDD 39.27	X 0.001	3.93e-02
2,3,7,8-TCDF *	X 0.1	*
1,2,3,7,8-PeCDF *	X 0.05	*
2,3,4,7,8-PeCDF *	X 0.5	*
1,2,3,4,7,8-HxCDF *	X 0.1	*
1,2,3,6,7,8-HxCDF *	X 0.1	*
1,2,3,7,8,9-HxCDF *	X 0.1	*
2,3,4,6,7,8-HxCDF *	X 0.1	*
1,2,3,4,6,7,8-HpCDF 1.95	X 0.01	1.95e-02
1,2,3,4,7,8,9-HpCDF *	X 0.01	*
OCDF 5.25	X 0.001	5.25e-03

Total: 1.105e-01

- (1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update(EPA/625/3-89/016, March 1989.'

6/90

JPD
8/19/99

Form 1

CLIENT ID.

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

99284196

Lab Name: Southwest Lab. of Oklahoma Episode No.: 39412

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 39412.06

Client Name: E&E-WA Sample Wt/Vol: 10.42 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 07-01-99

Sample Receipt Date: 07-14-99 Instrument ID: AutoSpec

Ext. Date: 07-16-99 GC Column: DB-5

Ext. Vol(ul): 20.0 Inj. Vol(ul): 2.0 Sample Data Filename: A105231#8

Analysis Date: 30-JUL-99 Time: 04:46:01 Blank Data Filename: A105231#2

Dilution Factor: 1 Cal. Ver. Data Filename: A105229#6

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 7.57

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.355	U	*	*	1.48
1,2,3,7,8-PeCDD	*	0.414	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.687	U	*	*	0.74
1,2,3,6,7,8-HxCDD	*	0.463	U	*	*	1.10
1,2,3,7,8,9-HxCDD	*	0.530	U	*	*	0.96
1,2,3,4,6,7,8-HpCDD	4.648	0.857		1.14	1.000	1.14
OCDD	39.274	0.748		0.84	1.000	1.11
2,3,7,8-TCDF	*	0.258	U	*	*	1.15
1,2,3,7,8-PeCDF	*	0.480	U	*	*	0.98
2,3,4,7,8-PeCDF	*	0.485	U	*	*	0.97
1,2,3,4,7,8-HxCDF	*	0.636	U	*	*	1.03
1,2,3,6,7,8-HxCDF	*	0.477	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.755	U	*	*	0.87
2,3,4,6,7,8-HxCDF	*	0.558	U	*	*	1.18
1,2,3,4,6,7,8-HpCDF	1.951	0.637		1.09	1.000	1.44
1,2,3,4,7,8,9-HpCDF	*	0.897	U	*	*	1.02
OCDF	5.248	1.262		0.95	1.004	1.21
Total Tetra-Dioxins	*	0.355	U			
Total Penta-Dioxins	*	0.414	U			
Total Hexa-Dioxins	1.363	0.463				
Total Hepta-Dioxins	10.327	0.857				
Total Tetra-Furans	4.560	0.258				
Total Penta-Furans	24.458	0.485				
Total Hexa-Furans	5.607	0.477				
Total Hepta-Furans	4.676	0.637				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.

(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.

99284195

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 39412
Client Name: E&E-WA Lab Sample ID: 39412.05
Matrix (aqueous/solid/leachate): aqueous Sample Wt/Vol: 1000 g or mL: mL
Sample Receipt Date: 07/14/99 Initial Calibration Date: 07/01/99
Ext. Date: 07/16/99 Shift: Instrument ID: AutoSpec
Analysis Date: 27-JUL-99 Time: 19:27:47 GC Column ID: DB-5
Extract Volume(ul): 20.0 Sample Data Filename: A105216#12
Injection Volume(ul): 2.00 Blank Data Filename: A105216#3
Dilution Factor: 1 Cal. Ver. Data Filename: A105216#1
Concentration Units (pg/L or ng/Kg dry weight): pg/L % Moisture:

CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	X 1.0	*
1,2,3,7,8-PeCDD	X 0.5	*
1,2,3,4,7,8-HxCDD	X 0.1	*
1,2,3,6,7,8-HxCDD	X 0.1	*
1,2,3,7,8,9-HxCDD	X 0.1	*
1,2,3,4,6,7,8-HpCDD	X 0.01	*
OCDD	X 0.001	*
2,3,7,8-TCDF	X 0.1	*
1,2,3,7,8-PeCDF	X 0.05	*
2,3,4,7,8-PeCDF	X 0.5	*
1,2,3,4,7,8-HxCDF	X 0.1	*
1,2,3,6,7,8-HxCDF	X 0.1	*
1,2,3,7,8,9-HxCDF	X 0.1	*
2,3,4,6,7,8-HxCDF	X 0.1	*
1,2,3,4,6,7,8-HpCDF	X 0.01	*
1,2,3,4,7,8,9-HpCDF	X 0.01	*
OCDF	X 0.001	*

*Total: ~~9.701e-03~~ U 80

(1) Taken from 'Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA/625/3-89/016, March 1989.'

* Total TEF is calculated by summing up all positively identified isomers of each homologous series.

6/90

JSD
8/19/99
90

Compound Quantitation and Detection Limits

All of the samples were analyzed at the contract required quantitation limits (CRQLs) with the following exceptions:

Pest/PCB samples JW570, JW571 and JW572 were analyzed at dilutions of 20X, 2X and 10X respectively, due to matrix interferences.

Target compounds that were detected at concentrations less than the CRQLs were qualified as estimated, "J". Detected compounds at concentrations over the calibration range were qualified as estimated, "J". Data users should consider these estimated compounds as the minimum amount present in the samples. It is also recommended that for these compounds, data users should utilize the concentrations reported from the dilution runs. All of the reported results were adjusted for sample amounts analyzed.

Blanks

Acetone and 2-hexanone were detected below the CRQL in the VOA blanks VBLKU4 and VBLKB9. Acetone and 2-hexanone detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

Methylene chloride was detected below the CRQL and acetone was detected slightly above the CRQL in the VOA blank VHBLKB7. Methylene chloride and acetone detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

Alpha-BHC, beta-BHC, heptachlor, aldrin, heptachlor epoxide, dieldrin, 4,4'-DDE, 4,4'-DDD, endosulfan sulfate, 4,4'-DDT, endrin aldehyde and gamma chlordane were detected below the CRQL in the Pest/PCB blank PBLKNX. Alpha-BHC, beta-BHC, heptachlor, aldrin, heptachlor epoxide, dieldrin, 4,4'-DDE, 4,4'-DDD, endosulfan sulfate, 4,4'-DDT, endrin aldehyde and gamma chlordane detected in the samples at concentrations less than five times the value in their associated blank(s) were qualified as non-detects, "U".

4,4'-DDE, endrin, 4,4'-DDT and methoxychlor were detected below the CRQL in the Pest/PCB blank PBLKNJ. 4,4'-DDE, endrin, 4,4'-DDT and methoxychlor detected in the samples at concentrations less than five times the value in their associated blank(s) were qualified as non-detects, "U".

Alpha-BHC was detected below the CRQL in the Pest/PCB blanks PBLKDJ and PBLKOJ. Alpha-BHC detected in the samples at concentrations less than five times the value in their associated blank(s) were qualified as non-detects, "U".

Alpha-BHC, dieldrin, 4,4'-DDE, 4,4'-DDD, endosulfan sulfate, 4,4'-DDT and gamma-chlordane were detected below the CRQL in the Pest/PCB blank PBLKXN. Alpha-BHC, dieldrin, 4,4'-DDE, 4,4'-DDD, endosulfan sulfate, 4,4'-DDT and gamma-chlordane detected in the samples at concentrations less than five times the value in their associated blank(s) were qualified as non-detects, "U".

Analytical Sequence - Acceptable

All of the standards, blanks, samples, and QC samples were analyzed in accordance with the SOW specified analytical sequence.

System Monitoring Compounds (SMC)/Surrogate Spikes

All of the VOA SMC recoveries met the applicable QC criteria with the following exception:

JP415	bromofluorobenzene 44%
JP415RE	toluene-d8 145%

The associated internal standard, chlorobenzene-d5, was low in both samples. Results for sample JP415 were qualified as estimated, "J/UJ". None of the results for sample JP415RE were qualified on the basis of SMC recovery.

All of the SVOA surrogates recoveries met the applicable QC criteria with the following exceptions:

JP413 2,4,6-tribromophenol 126%. None of the data were qualified on this basis.

All of the Pest/PCB surrogate spike recoveries met the applicable QC criteria (30-150%).

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

VOA sample JW542 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses.

SVOA sample JW542 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses with the following exceptions:

The RPDs between JW542MS and JW542MSD were 47% for 4-chloro-3-methylphenol and 20% for acenaphthene.

Pest/PCB sample JW542 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses.

No data qualification was applied based on MS/MSD analysis.

Internal Standards

The acceptance criteria for internal standards (IS) are ± 30 seconds for retention time (RT) shifts and -50% to +100% of the IS area as compared to the IS RT and area of the daily continuing calibration standard. All of the GC/MS analyses met the IS area and retention time shift criteria with following exceptions:

VOA	JP415	chlorobenzene-d5	-58%
	JP415RE	chlorobenzene-d5	-60%

Sample JP415 was already qualified on the basis of SMC recovery. Due to the low internal standard area the associated results of sample JP415RE were qualified as estimated, "J/UJ".

Compound Identification

All of the compounds detected in the GC/MS analyses were within the retention time windows, met the USEPA spectral matching criteria and were judged to be acceptable.

Single component pesticides and aroclors were qualified as follows: where %Ds (between two column concentrations) $> 30\%$ but $\leq 60\%$ - detected results were qualified as estimated, "J"; %Ds $> 60\%$ with concentrations $> \text{CRQL}$ - results were qualified as tentatively identified at the estimated concentration, "JN"; %Ds $> 60\%$ with concentrations $< \text{CRQL}$ - results were qualified as non-detects, "U"; %Ds $> 400\%$ - results were qualified as non-detects with raised quantitation limit if $> \text{CRQL}$. In cases where %Ds $< 60\%$ with concentrations $< \text{CRQL}$ and chromatographic interferences, the results were qualified as non-detects, "U". In cases where %Ds $< 400\%$ with concentrations $> \text{CRQL}$ and chromatographic interferences, the results were qualified as tentatively identified at the estimated concentration, "JN".

Tentatively Identified Compounds

Peaks that were detected in the samples at areas >10% of the internal standards and were not part of the target compound lists were identified as tentatively identified compounds (TICs). TICs that were both found in the sample and in the associated method blank(s) were qualified as unusable, "R." Peaks that were identified as common laboratory contaminants, solvent preservatives, column bleed or aldol condensation products were qualified as unusable, "R". The rest of the peaks identified as TICs were qualified "NJ", tentatively identified at an estimated concentration.

Laboratory Contact

The laboratory was contacted by Region 10 concerning the following items:

FORM VII PEST-1 is incomplete for PEM50 analyzed on 8/10/99 at 19:04.

Hard copies of all resubmissions will be sent to Region 10.

Overall Assessment

All of the samples were analyzed in accordance with the SOW specifications. The data, as qualified, are acceptable and can be used for all purposes.

Data Qualifiers

- | | | |
|----|---|--|
| U | - | The analyte was not detected at or above the reported result. |
| J | - | The analyte was positively identified. The associated numerical result is an estimate. |
| R | - | The data are unusable for all purposes. |
| N | - | There is evidence the analyte is present in this sample. |
| JN | - | There is evidence that the analyte is present. The associated numerical result is an estimate. |
| UJ | - | The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample. |

Holding Time Summary - Case 27165

SDG: JW542

Sample Number	Collection Date	VTSR	VOA Analysis	SVOA Extraction	SVOA Analysis	Pest/PCB Extraction	Pest/PCB Analysis
JP411	7/8/99	7/9/99	7/15/99	7/9/99	7/14/99	7/9/99	8/11/99
JP412	7/8/99	7/9/99	7/15/99	7/9/99	7/13/99	7/9/99	8/11/99
JP413	7/8/99	7/9/99	7/15/99	7/9/99	7/14/99	7/9/99	8/11/99
JP415	7/8/99	7/10/99	7/15/99	7/12/99	7/15/99	7/13/99	8/11/99
JP416	7/8/99	7/10/99	7/15/99	7/12/99	7/15/99	7/13/99	8/11/99
JP417	7/8/99	7/10/99	7/15/99	7/12/99	7/15/99	7/13/99	8/11/99
JW542	7/1/99	7/3/99	7/13/99	7/8/99	7/13/99	7/8/99	8/11/99
JW545	7/1/99	7/3/99	7/13/99	7/8/99	7/13/99	7/8/99	8/11/99
JW546	7/1/99	7/3/99	7/13/99	7/8/99	7/13/99	7/8/99	8/11/99
JW564	7/1/99	7/3/99	7/13/99	7/8/99	7/13/99	7/8/99	8/11/99
JW565	7/1/99	7/3/99	7/13/99	7/8/99	7/13/99	7/8/99	8/11/99
JW570	7/6/99	7/8/99	NA	NA	NA	7/9/99	8/11/99
JW571	7/6/99	7/8/99	NA	NA	NA	7/9/99	8/11/99
JW572	7/6/99	7/8/99	NA	NA	NA	7/9/99	8/11/99
JW573	7/6/99	7/8/99	NA	NA	NA	7/9/99	8/11/99
JW574	7/6/99	7/8/99	7/15/99	7/9/99	7/14/99	7/9/99	8/11/99
JW575	7/6/99	7/8/99	7/15/99	7/9/99	7/14/99	7/9/99	8/11/99
JW578	7/7/99	7/9/99	7/15/99	7/9/99	7/14/99	7/9/99	8/11/99
JW579	7/7/99	7/9/99	7/15/99	7/9/99	7/14/99	7/9/99	8/11/99
JW580	7/7/99	7/9/99	7/15/99	7/9/99	7/13/99	7/9/99	8/11/99
JW415RE	7/8/99	7/10/99	7/15/99	NA	NA	NA	NA
JW575DL	7/6/99	7/8/99	NA	7/9/99	7/15/99	NA	NA
JP415DL	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/13/99
JW542DL	7/1/99	7/3/99	NA	NA	NA	7/8/99	8/13/99
JW546DL	7/1/99	7/3/99	NA	NA	NA	7/8/99	8/13/99
JW565DL	7/1/99	7/3/99	NA	NA	NA	7/8/99	8/13/99
JW570DL	7/6/99	7/8/99	NA	NA	NA	7/9/99	8/13/99
JW572DL	7/6/99	7/8/99	NA	NA	NA	7/9/99	8/13/99

VTSR - Verified time of sample receipt in the laboratory
recycled paper

NA - Not available
recycled paper

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP411

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950008

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050008A51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 18

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.

COMPOUND

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

Q

74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	37	U
75-15-0	Carbon Disulfide	1	J
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	9	J
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	2	J
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	24	
100-42-5	Styrene	12	U
1330-20-7	Xylene (Total)	90	

FORM I VOA

CP 8-31-99

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP411

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950008

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050008a51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 18

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 25

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SUBSTITUTED CYCLOHEXANE	19.76	18	JN
2.	SUBSTITUTED ALKANE	19.98	10	J
3.	SUBSTITUTED ALKANE	20.09	26	J
4.	UNKNOWN HYDROCARBON	20.30	14	J
5.	UNKNOWN CYCLIC HYDROCARBON	20.49	16	J
6.	SUBSTITUTED BENZENE	20.73	40	J
7.	SUBSTITUTED BENZENE	20.82	40	J
8.	UNKNOWN CYCLIC HYDROCARBON	20.92	25	J
9.	SUBSTITUTED BENZENE	21.04	11	J
10.	SUBSTITUTED BENZENE	21.21	97	J
11.	SUBSTITUTED BENZENE	21.40	14	J
12.	SUBSTITUTED BENZENE	21.50	26	J
13.	SUBSTITUTED BENZENE	21.67	45	J
14.	SUBSTITUTED BENZENE	21.90	34	J
15.	SUBSTITUTED BENZENE	21.96	18	J
16.	SUBSTITUTED BENZENE	22.19	8	J
17.	SUBSTITUTED BENZENE	22.31	25	J
18.	SUBSTITUTED BENZENE	22.40	17	J
19.	SUBSTITUTED BENZENE	22.56	42	J
20.	SUBSTITUTED BENZENE	22.78	11	J
21.	SUBSTITUTED BENZENE	22.89	17	J
22.	SUBSTITUTED BENZENE	22.96	25	J
23.	SUBSTITUTED BENZENE	23.07	19	J
24.	SUBSTITUTED BENZENE	23.27	9	J
25.	SUBSTITUTED BENZENE	23.35	10	JV
26.				
27.				
28.				
29.				
30.				

CP 8-31-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP412

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950017

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050017A51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 5

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

CAS NO.

COMPOUND

Q

74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	1	J

FORM I VOA

CP-31-99

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP412

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950017

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050017a51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 5

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	LABORATORY ARTIFACT	22.54	9	JR
2.	Lab Contamination			
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-31-99

FORM I VOA-TIC

OLM03.0

EPA SAMPLE NO.

JP413

Contract: 68D50004

SAS No. :

SDG No.: JW542

Lab Sample ID: 950018

Lab File ID: GH050018A51

Date Received: 07/09/99

Date Analyzed: 07/15/99

Dilution Factor: 1.0

Soil Aliquot Volume: _____ (uL)

(ug/L or ug/Kg) · ug/Kg

COMPOUND

Q

CP 8-31-99
OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP413

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950018

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050018a51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 15

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-31-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP415

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950228

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050228A51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 24

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	Chloromethane	13	UJ
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	13	UJ
67-64-1	Acetone	13	UJ
75-15-0	Carbon Disulfide	13	UJ
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
540-59-0	1,2-Dichloroethene (total)	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (Total)	13	U

FORM I VOA

8-31-99

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP415

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950228

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050228a51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 24

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

Number TICs found: 2

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.56	39	J R
2.	LABORATORY ARTIFACT	22.51	10	J R
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP
8-31-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP415RE

Lab Name: COMPUCEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950228

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GR050228A51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 24

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	13	U
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
540-59-0	1,2-Dichloroethene (total)	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (Total)	13	U

13 8 744

CP 8-31-99

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP415RE

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950228

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gr050228a51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 24

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

Number TICs found: 3

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 71-23-8	1-PROPANOL	11.50	8	NJ
2. LABORATORY ARTIFACT	LABORATORY ARTIFACT <i>Lab Conf.</i>	20.57	313	J <i>R</i>
3. LABORATORY ARTIFACT	LABORATORY ARTIFACT <i>↓</i>	22.51	35	J <i>R</i>
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-31-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP416

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950229

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050229A51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 7

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3	-----Chloromethane	11	U
74-83-9	-----Bromomethane	11	U
75-01-4	-----Vinyl Chloride	11	U
75-00-3	-----Chloroethane	11	U
75-09-2	-----Methylene Chloride	11	U
67-64-1	-----Acetone	// 8	784
75-15-0	-----Carbon Disulfide	11	U
75-35-4	-----1,1-Dichloroethene	11	U
75-34-3	-----1,1-Dichloroethane	11	U
540-59-0	-----1,2-Dichloroethene (total)	11	U
67-66-3	-----Chloroform	11	U
107-06-2	-----1,2-Dichloroethane	11	U
78-93-3	-----2-Butanone	11	U
71-55-6	-----1,1,1-Trichloroethane	11	U
56-23-5	-----Carbon Tetrachloride	11	U
75-27-4	-----Bromodichloromethane	11	U
78-87-5	-----1,2-Dichloropropane	11	U
10061-01-5	-----cis-1,3-Dichloropropene	11	U
79-01-6	-----Trichloroethene	11	U
124-48-1	-----Dibromochloromethane	11	U
79-00-5	-----1,1,2-Trichloroethane	11	U
71-43-2	-----Benzene	11	U
10061-02-6	-----trans-1,3-Dichloropropene	11	U
75-25-2	-----Bromoform	11	U
108-10-1	-----4-Methyl-2-Pentanone	11	U
591-78-6	-----2-Hexanone	11	U
127-18-4	-----Tetrachloroethene	11	U
79-34-5	-----1,1,2,2-Tetrachloroethane	11	U
108-88-3	-----Toluene	11	U
108-90-7	-----Chlorobenzene	11	U
100-41-4	-----Ethylbenzene	11	U
100-42-5	-----Styrene	11	U
1330-20-7	-----Xylene (Total)	11	U

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP416

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950229

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050229a51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 7

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab. Cont.</i>	20.59	24	J R
2.	LABORATORY ARTIFACT	22.54	21	J R
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-31-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP417

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950230

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050230A51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 34

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3	Chloromethane	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	15	U
67-64-1	Acetone	15	U
75-15-0	Carbon Disulfide	15	U
75-35-4	1,1-Dichloroethene	15	U
75-34-3	1,1-Dichloroethane	15	U
540-59-0	1,2-Dichloroethene (total)	15	U
67-66-3	Chloroform	15	U
107-06-2	1,2-Dichloroethane	15	U
78-93-3	2-Butanone	15	U
71-55-6	1,1,1-Trichloroethane	15	U
56-23-5	Carbon Tetrachloride	15	U
75-27-4	Bromodichloromethane	15	U
78-87-5	1,2-Dichloropropane	15	U
10061-01-5	cis-1,3-Dichloropropene	15	U
79-01-6	Trichloroethene	15	U
124-48-1	Dibromochloromethane	15	U
79-00-5	1,1,2-Trichloroethane	15	U
71-43-2	Benzene	15	U
10061-02-6	trans-1,3-Dichloropropene	15	U
75-25-2	Bromoform	15	U
108-10-1	4-Methyl-2-Pentanone	15	U
591-78-6	2-Hexanone	15	U
127-18-4	Tetrachloroethene	15	U
79-34-5	1,1,2,2-Tetrachloroethane	15	U
108-88-3	Toluene	15	U
108-90-7	Chlorobenzene	15	U
100-41-4	Ethylbenzene	15	U
100-42-5	Styrene	15	U
1330-20-7	Xylene (Total)	15	U

157 14U

CP 8-31-99
OLM03.0

FORM I VOA

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP417

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950230

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050230a51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 34

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT Lab. Conf.	22.53	26	J R
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-31-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW542

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949679

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049679A51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. 7

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	11	U J
74-83-9-----	Bromomethane	11	U
75-01-4-----	Vinyl Chloride	11	U
75-00-3-----	Chloroethane	11	U
75-09-2-----	Methylene Chloride	11	U
67-64-1-----	Acetone	34	U
75-15-0-----	Carbon Disulfide	11	U
75-35-4-----	1,1-Dichloroethene	11	U
75-34-3-----	1,1-Dichloroethane	11	U
540-59-0-----	1,2-Dichloroethene (total)	11	U
67-66-3-----	Chloroform	11	U
107-06-2-----	1,2-Dichloroethane	11	U
78-93-3-----	2-Butanone	11	U
71-55-6-----	1,1,1-Trichloroethane	11	U
56-23-5-----	Carbon Tetrachloride	11	U
75-27-4-----	Bromodichloromethane	11	U
78-87-5-----	1,2-Dichloropropane	11	U
10061-01-5-----	cis-1,3-Dichloropropene	11	U
79-01-6-----	Trichloroethene	11	U
124-48-1-----	Dibromochloromethane	11	U
79-00-5-----	1,1,2-Trichloroethane	11	U
71-43-2-----	Benzene	11	U
10061-02-6-----	trans-1,3-Dichloropropene	11	U
75-25-2-----	Bromoform	11	U
108-10-1-----	4-Methyl-2-Pentanone	11	U
591-78-6-----	2-Hexanone	11	U
127-18-4-----	Tetrachloroethene	11	U
79-34-5-----	1,1,2,2-Tetrachloroethane	11	U
108-88-3-----	Toluene	11	U
108-90-7-----	Chlorobenzene	11	U
100-41-4-----	Ethylbenzene	11	U
100-42-5-----	Styrene	11	U
1330-20-7-----	Xylene (Total)	11	U

CP 8-31-99

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW542

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949679

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049679a51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. 7

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.60	37	J R
2.	LABORATORY ARTIFACT ↓	22.56	14	J R
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-31-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW545

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949690

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049690A51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. 7

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	72	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (Total)	11	U

FORM I VOA

CP
8-31-99
OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW546

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949691

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049691a51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. 20

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 18

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	19.78	17	JN
2. 4551-51-3	1H-INDENE, OCTAHYDRO-, CIS-	20.04	37	NJ
3.	UNKNOWN HYDROCARBON	20.11	28	JN
4.	UNKNOWN HYDROCARBON	20.30	7	J
5.	UNKNOWN HYDROCARBON	20.47	12	J
6.	UNKNOWN HYDROCARBON	20.71	19	J
7.	UNKNOWN HYDROCARBON	20.81	24	J
8.	UNKNOWN CYCLIC HYDROCARBON	20.92	33	J
9.	UNKNOWN CYCLIC HYDROCARBON	21.09	22	J
10.	UNKNOWN CYCLIC HYDROCARBON	21.25	21	J
11.	SUBSTITUTED BENZENE	21.41	22	J
12.	SUBSTITUTED CYCLOHEXANE	21.49	24	J
13.	SUBSTITUTED BENZENE	21.79	9	J
14.	DIETHYLBENZENE ISOMER	21.89	10	J
15.	DECAHYDRONAPHTHALENE ISOMER	22.04	32	J
16.	SUBSTITUTED BENZENE	22.41	17	J
17.	SUBSTITUTED BENZENE	22.56	44	J
18.	SUBSTITUTED BENZENE	22.90	18	JV
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-31-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW564

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949692

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049692A51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. 7

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	11	U J
74-83-9-----	Bromomethane	11	U
75-01-4-----	Vinyl Chloride	11	U
75-00-3-----	Chloroethane	11	U
75-09-2-----	Methylene Chloride	11	U
67-64-1-----	Acetone	11	U
75-15-0-----	Carbon Disulfide	11	U
75-35-4-----	1,1-Dichloroethene	11	U
75-34-3-----	1,1-Dichloroethane	11	U
540-59-0-----	1,2-Dichloroethene (total)	11	U
67-66-3-----	Chloroform	11	U
107-06-2-----	1,2-Dichloroethane	11	U
78-93-3-----	2-Butanone	11	U
71-55-6-----	1,1,1-Trichloroethane	11	U
56-23-5-----	Carbon Tetrachloride	11	U
75-27-4-----	Bromodichloromethane	11	U
78-87-5-----	1,2-Dichloropropane	11	U
10061-01-5-----	cis-1,3-Dichloropropene	11	U
79-01-6-----	Trichloroethene	11	U
124-48-1-----	Dibromochloromethane	11	U
79-00-5-----	1,1,2-Trichloroethane	11	U
71-43-2-----	Benzene	11	U
10061-02-6-----	trans-1,3-Dichloropropene	11	U
75-25-2-----	Bromoform	11	U
108-10-1-----	4-Methyl-2-Pentanone	11	U
591-78-6-----	2-Hexanone	11	U
127-18-4-----	Tetrachloroethene	11	U
79-34-5-----	1,1,2,2-Tetrachloroethane	11	U
108-88-3-----	Toluene	11	U
108-90-7-----	Chlorobenzene	11	U
100-41-4-----	Ethylbenzene	11	U
100-42-5-----	Styrene	11	U
1330-20-7-----	Xylene (Total)	11	U

FORM I VOA

CP
8-31-99

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW564

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949692

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049692a51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. 7

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab cont.</i>	20.59	7	J R
2.	LABORATORY ARTIFACT	22.55	6	J R
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-31-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW565

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949693

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049693A51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. 20

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	12	U J
74-83-9-----	Bromomethane	12	U
75-01-4-----	Vinyl Chloride	12	U
75-00-3-----	Chloroethane	12	U
75-09-2-----	Methylene Chloride	13	U
67-64-1-----	Acetone	19	U
75-15-0-----	Carbon Disulfide	12	U
75-35-4-----	1,1-Dichloroethene	12	U
75-34-3-----	1,1-Dichloroethane	12	U
540-59-0-----	1,2-Dichloroethene (total)	12	U
67-66-3-----	Chloroform	12	U
107-06-2-----	1,2-Dichloroethane	12	U
78-93-3-----	2-Butanone	3	J
71-55-6-----	1,1,1-Trichloroethane	12	U
56-23-5-----	Carbon Tetrachloride	12	U
75-27-4-----	Bromodichloromethane	12	U
78-87-5-----	1,2-Dichloropropane	12	U
10061-01-5-----	cis-1,3-Dichloropropene	12	U
79-01-6-----	Trichloroethene	12	U
124-48-1-----	Dibromochloromethane	12	U
79-00-5-----	1,1,2-Trichloroethane	12	U
71-43-2-----	Benzene	12	U
10061-02-6-----	trans-1,3-Dichloropropene	12	U
75-25-2-----	Bromoform	12	U
108-10-1-----	4-Methyl-2-Pentanone	12	U
591-78-6-----	2-Hexanone	12	U
127-18-4-----	Tetrachloroethene	12	U
79-34-5-----	1,1,2,2-Tetrachloroethane	12	U
108-88-3-----	Toluene	12	U
108-90-7-----	Chlorobenzene	12	U
100-41-4-----	Ethylbenzene	12	U
100-42-5-----	Styrene	12	U
1330-20-7-----	Xylene (Total)	12	U

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW565

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949693

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049693a51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. 20

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.58	31	J R
2.	LABORATORY ARTIFACT	22.53	38	J R
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-31-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW574

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949971

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049971A51

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: not dec. 7

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	-----Chloromethane	11	U
74-83-9	-----Bromomethane	11	U
75-01-4	-----Vinyl Chloride	11	U
75-00-3	-----Chloroethane	11	U
75-09-2	-----Methylene Chloride	11	U
67-64-1	-----Acetone	11	U
75-15-0	-----Carbon Disulfide	11	U
75-35-4	-----1,1-Dichloroethene	11	U
75-34-3	-----1,1-Dichloroethane	11	U
540-59-0	-----1,2-Dichloroethene (total)	11	U
67-66-3	-----Chloroform	11	U
107-06-2	-----1,2-Dichloroethane	11	U
78-93-3	-----2-Butanone	11	U
71-55-6	-----1,1,1-Trichloroethane	11	U
56-23-5	-----Carbon Tetrachloride	11	U
75-27-4	-----Bromodichloromethane	11	U
78-87-5	-----1,2-Dichloropropane	11	U
10061-01-5	-----cis-1,3-Dichloropropene	11	U
79-01-6	-----Trichloroethene	11	U
124-48-1	-----Dibromochloromethane	11	U
79-00-5	-----1,1,2-Trichloroethane	11	U
71-43-2	-----Benzene	11	U
10061-02-6	-----trans-1,3-Dichloropropene	11	U
75-25-2	-----Bromoform	11	U
108-10-1	-----4-Methyl-2-Pentanone	11	U
591-78-6	-----2-Hexanone	11	U
127-18-4	-----Tetrachloroethene	11	U
79-34-5	-----1,1,2,2-Tetrachloroethane	11	U
108-88-3	-----Toluene	11	U
108-90-7	-----Chlorobenzene	11	U
100-41-4	-----Ethylbenzene	11	U
100-42-5	-----Styrene	11	U
1330-20-7	-----Xylene (Total)	11	U

FORM - VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW574

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949971

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049971a51

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: not dec. 7

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.59	52	J R
2.	LABORATORY ARTIFACT	22.54	13	J R
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I. VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW575

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949972

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049972A51

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: not dec. 4

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	10 2 34	U
67-64-1	-----Acetone	10 8 34	U
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	10	U
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	10	U
67-66-3	-----Chloroform	10	U
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	10	U
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	10	U
10061-02-6	-----trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	10	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	10	U
108-90-7	-----Chlorobenzene	10	U
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (Total)	10	U

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW575

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949972

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049972a51

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: not dec. 4

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab Conf.</i>	20.59	108	J R
2.	LABORATORY ARTIFACT	22.54	73	J R
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I VOA-TIC

CP
8-31-99
OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW578

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950019

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050019A51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 7

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	20	u
67-64-1	Acetone	100	u
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	21	
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	1	J
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	4	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	17	
100-42-5	Styrene	11	U
1330-20-7	Xylene (Total)	46	

FORM I VOA

CP 8-31-99
OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW578

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950019

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050019a51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 7

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SUBSTITUTED CYCLOHEXANE	20.10	8	JN
2.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.58	63	J R
3.	SUBSTITUTED BENZENE	20.82	8	JN
4.	SUBSTITUTED BENZENE	21.22	6	JN
5.	LABORATORY ARTIFACT <i>Lab Cont.</i>	22.54	23	J R
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP
8-31-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW579

Lab Name: COMPUCEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950020

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GR050020A51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 13

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	23	
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	15	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	1	J
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (Total)	11	U

FORM I VOA

CP
8-31-99

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW579

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950020

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gr050020a51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 13

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 71-23-8	1-PROPANOL	11.48	7	NJ
2.	UNKNOWN HYDROCARBON	19.74	6	JN
3. 1678-92-8	CYCLOHEXANE, PROPYL-	20.08	9	NJ
4.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.55	15	J R
5.	UNKNOWN HYDROCARBON	20.78	9	JN
6.	UNKNOWN HYDROCARBON	20.85	8	J
7.	UNKNOWN HYDROCARBON	21.20	9	J
8.	SUBSTITUTED CYCLOHEXANE	21.45	9	J
9.	SUBSTITUTED BENZENE	22.01	8	J
10.	LABORATORY ARTIFACT <i>Lab Cont.</i>	22.52	11	J R
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW580

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950021

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050021A51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 6

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	11	U
74-83-9-----	Bromomethane	11	U
75-01-4-----	Vinyl Chloride	11	U
75-00-3-----	Chloroethane	11	U
75-09-2-----	Methylene Chloride	11	U
67-64-1-----	Acetone	43	U
75-15-0-----	Carbon Disulfide	11	U
75-35-4-----	1,1-Dichloroethene	11	U
75-34-3-----	1,1-Dichloroethane	11	U
540-59-0-----	1,2-Dichloroethene (total)	11	U
67-66-3-----	Chloroform	11	U
107-06-2-----	1,2-Dichloroethane	11	U
78-93-3-----	2-Butanone	11	U
71-55-6-----	1,1,1-Trichloroethane	11	U
56-23-5-----	Carbon Tetrachloride	11	U
75-27-4-----	Bromodichloromethane	11	U
78-87-5-----	1,2-Dichloropropane	11	U
10061-01-5-----	cis-1,3-Dichloropropene	11	U
79-01-6-----	Trichloroethene	11	U
124-48-1-----	Dibromochloromethane	11	U
79-00-5-----	1,1,2-Trichloroethane	11	U
71-43-2-----	Benzene	11	U
10061-02-6-----	trans-1,3-Dichloropropene	11	U
75-25-2-----	Bromoform	11	U
108-10-1-----	4-Methyl-2-Pentanone	11	U
591-78-6-----	2-Hexanone	11	U
127-18-4-----	Tetrachloroethene	11	U
79-34-5-----	1,1,2,2-Tetrachloroethane	11	U
108-88-3-----	Toluene	11	U
108-90-7-----	Chlorobenzene	11	U
100-41-4-----	Ethylbenzene	11	U
100-42-5-----	Styrene	11	U
1330-20-7-----	Xylene (Total)	11	U

FORM I VOA

CV-31-99
OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW580

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950021

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050021a51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec.: 6

Date Analyzed: 07/15/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 12

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	20.12	7	JN
2.	LABORATORY ARTIFACT <i>Lab Conf.</i>	20.58	22	JR
3.	UNKNOWN HYDROCARBON	20.71	7	JN
4.	SUBSTITUTED CYCLOHEXANE	20.89	12	J
5.	UNKNOWN CYCLIC HYDROCARBON	21.09	5	J
6.	UNKNOWN ALKANE	21.46	19	J
7.	SUBSTITUTED ALKANE	21.74	15	J
8.	SUBSTITUTED ALKANE	21.95	7	J
9.	SUBSTITUTED BENZENE	22.05	8	J
10.	SUBSTITUTED CYCLOHEXANE	22.23	8	J
11.	LABORATORY ARTIFACT <i>Lab Conf.</i>	22.54	8	JR
12.	UNKNOWN ALKANE	23.08	10	JN
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-31-99

FORM I VOA-TIC

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP411

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950008

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050008A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 18 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

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

108-95-2-----	Phenol	400	U
111-44-4-----	bis(2-Chloroethyl) ether	400	U
95-57-8-----	2-Chlorophenol	400	U
541-73-1-----	1,3-Dichlorobenzene	400	U
106-46-7-----	1,4-Dichlorobenzene	400	U
95-50-1-----	1,2-Dichlorobenzene	400	U
95-48-7-----	2-Methylphenol	400	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	400	U
106-44-5-----	4-Methylphenol	400	U
621-64-7-----	N-Nitroso-di-n-propylamine	400	U
67-72-1-----	Hexachloroethane	400	U
98-95-3-----	Nitrobenzene	400	U
78-59-1-----	Isophorone	400	U
88-75-5-----	2-Nitrophenol	400	U
105-67-9-----	2,4-Dimethylphenol	400	U
111-91-1-----	bis(2-Chloroethoxy) methane	400	U
120-83-2-----	2,4-Dichlorophenol	400	U
120-82-1-----	1,2,4-Trichlorobenzene	400	U
91-20-3-----	Naphthalene	170	J
106-47-8-----	4-Chloroaniline	400	U
87-68-3-----	Hexachlorobutadiene	400	U
59-50-7-----	4-Chloro-3-methylphenol	400	U
91-57-6-----	2-Methylnaphthalene	120	J
77-47-4-----	Hexachlorocyclopentadiene	400	U
88-06-2-----	2,4,6-Trichlorophenol	400	U
95-95-4-----	2,4,5-Trichlorophenol	1000	U
91-58-7-----	2-Chloronaphthalene	400	U
88-74-4-----	2-Nitroaniline	1000	U
131-11-3-----	Dimethylphthalate	400	U
208-96-8-----	Acenaphthylene	400	U
606-20-2-----	2,6-Dinitrotoluene	400	U
99-09-2-----	3-Nitroaniline	1000	U
83-32-9-----	Acenaphthene	400	U

FORM I SV-1

CP 6-1-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP411

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950008

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050008A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 18 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

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

51-28-5-----2,4-Dinitrophenol	1000	U
100-02-7-----4-Nitrophenol	1000	U
132-64-9-----Dibenzofuran	400	U
121-14-2-----2,4-Dinitrotoluene	400	U
84-66-2-----Diethylphthalate	400	U
7005-72-3-----4-Chlorophenyl-phenylether	400	U
86-73-7-----Fluorene	400	U
100-01-6-----4-Nitroaniline	1000	U
534-52-1-----4,6-Dinitro-2-methylphenol	1000	U
86-30-6-----N-nitrosodiphenylamine (1)	400	U
101-55-3-----4-Bromophenyl-phenylether	400	U
118-74-1-----Hexachlorobenzene	400	U
87-86-5-----Pentachlorophenol	1000	U
85-01-8-----Phenanthrene	85	J
120-12-7-----Anthracene	400	U
86-74-8-----Carbazole	400	U
84-74-2-----Di-n-butylphthalate	50	J
206-44-0-----Fluoranthene	75	J
129-00-0-----Pyrene	90	J
85-68-7-----Butylbenzylphthalate	92	J
91-94-1-----3,3'-Dichlorobenzidine	400	U
56-55-3-----Benzo(a)anthracene	83	J
218-01-9-----Chrysene	130	J
117-81-7-----bis(2-Ethylhexyl)phthalate	820	
117-84-0-----Di-n-octylphthalate	82	J
205-99-2-----Benzo(b)fluoranthene	100	J
207-08-9-----Benzo(k)fluoranthene	87	J
50-32-8-----Benzo(a)pyrene	400	U
193-39-5-----Indeno(1,2,3-cd)pyrene	84	J
53-70-3-----Dibenzo(a,h)anthracene	81	J
191-24-2-----Benzo(g,h,i)perylene	82	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP411

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950008

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050008A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 18 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.8

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 29

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	TRIMETHYLBENZENE	6.03	340	J ✓
2.	SUBSTITUTED BENZENE	6.70	370	J
3.	UNKNOWN	10.08	440	J
4.	UNKNOWN	14.82	280	J
5.	UNKNOWN	15.15	240	J
6.	UNKNOWN	15.81	400	J
7.	UNKNOWN	16.27	2200	J
8.	UNKNOWN	16.52	230	J
9.	UNKNOWN	17.22	1100	J
10.	UNKNOWN	17.29	220	J
11.	UNKNOWN	17.73	220	J
12.	UNKNOWN	17.87	160	J
13.	UNKNOWN	18.83	170	J
14.	UNKNOWN	19.51	310	J
15.	UNKNOWN	20.44	260	J
16.	UNKNOWN	21.06	450	J
17.	UNKNOWN	21.85	290	J
18.	UNKNOWN	22.30	310	J
19.	UNKNOWN	23.09	320	J
20.	UNKNOWN	24.23	330	J
21.	UNKNOWN	25.86	380	J
22.	UNKNOWN	26.26	740	J
23.	UNKNOWN	26.54	230	J
24.	UNKNOWN	26.75	600	J
25.	UNKNOWN	26.89	610	J
26.	UNKNOWN	27.24	390	J
27.	UNKNOWN	27.49	280	J
28.	UNKNOWN	27.86	290	J
29.	UNKNOWN	28.23	590	J ✓
30.				

FORM I SV-TIC

CP 9-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP412

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950017

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050017A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 5 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

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

CAS NO.

COMPOUND

Q

108-95-2-----	Phenol	350	U
111-44-4-----	bis(2-Chloroethyl) ether	350	U
95-57-8-----	2-Chlorophenol	350	U
541-73-1-----	1,3-Dichlorobenzene	350	U
106-46-7-----	1,4-Dichlorobenzene	350	U
95-50-1-----	1,2-Dichlorobenzene	350	U
95-48-7-----	2-Methylphenol	350	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5-----	4-Methylphenol	350	U
621-64-7-----	N-Nitroso-di-n-propylamine	350	U
67-72-1-----	Hexachloroethane	350	U
98-95-3-----	Nitrobenzene	350	U
78-59-1-----	Isophorone	350	U
88-75-5-----	2-Nitrophenol	350	U
105-67-9-----	2,4-Dimethylphenol	350	U
111-91-1-----	bis(2-Chloroethoxy)methane	350	U
120-83-2-----	2,4-Dichlorophenol	350	U
120-82-1-----	1,2,4-Trichlorobenzene	350	U
91-20-3-----	Naphthalene	350	U
106-47-8-----	4-Chloroaniline	350	U
87-68-3-----	Hexachlorobutadiene	350	U
59-50-7-----	4-Chloro-3-methylphenol	350	U
91-57-6-----	2-Methylnaphthalene	350	U
77-47-4-----	Hexachlorocyclopentadiene	350	U
88-06-2-----	2,4,6-Trichlorophenol	350	U
95-95-4-----	2,4,5-Trichlorophenol	870	U
91-58-7-----	2-Chloronaphthalene	350	U
88-74-4-----	2-Nitroaniline	870	U
131-11-3-----	Dimethylphthalate	350	U
208-96-8-----	Acenaphthylene	350	U
606-20-2-----	2,6-Dinitrotoluene	350	U
99-09-2-----	3-Nitroaniline	870	U
83-32-9-----	Acenaphthene	350	U

FORM I SV-1

CP 9-1-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP412

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950017

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050017A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 5 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

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

51-28-5-----2,4-Dinitrophenol	870	U
100-02-7-----4-Nitrophenol	870	U
132-64-9-----Dibenzofuran	350	U
121-14-2-----2,4-Dinitrotoluene	350	U
84-66-2-----Diethylphthalate	350	U
7005-72-3-----4-Chlorophenyl-phenylether	350	U
86-73-7-----Fluorene	350	U
100-01-6-----4-Nitroaniline	870	U
534-52-1-----4,6-Dinitro-2-methylphenol	870	U
86-30-6-----N-nitrosodiphenylamine (1)	350	U
101-55-3-----4-Bromophenyl-phenylether	350	U
118-74-1-----Hexachlorobenzene	350	U
87-86-5-----Pentachlorophenol	870	U J
85-01-8-----Phenanthrene	350	U
120-12-7-----Anthracene	350	U
86-74-8-----Carbazole	350	U
84-74-2-----Di-n-butylphthalate	350	U
206-44-0-----Fluoranthene	350	U
129-00-0-----Pyrene	350	U
85-68-7-----Butylbenzylphthalate	350	U
91-94-1-----3,3'-Dichlorobenzidine	350	U
56-55-3-----Benzo (a) anthracene	350	U
218-01-9-----Chrysene	350	U
117-81-7-----bis (2-Ethylhexyl) phthalate	50	J
117-84-0-----Di-n-octylphthalate	350	U
205-99-2-----Benzo (b) fluoranthene	350	U
207-08-9-----Benzo (k) fluoranthene	350	U
50-32-8-----Benzo (a) pyrene	350	U
193-39-5-----Indeno (1,2,3-cd) pyrene	350	U
53-70-3-----Dibenzo (a,h) anthracene	350	U
191-24-2-----Benzo (g,h,i) perylene	350	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP
9-1-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP412

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950017

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050017A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 5 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

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

Number TICs found: 10

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN (BC) blank Contamination	18.18	110	JB R
2.	UNKNOWN	20.48	120	JW
3.	UNKNOWN	21.34	120	J
4.	UNKNOWN	21.44	100	J
5.	UNKNOWN	21.58	130	J
6.	UNKNOWN	21.63	130	J
7.	UNKNOWN	21.70	220	J
8.	UNKNOWN	21.77	110	J
9.	UNKNOWN	21.86	220	J
10.	UNKNOWN	22.32	88	J↓
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP413

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950018

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050018A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 15 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

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

CAS NO.

COMPOUND

Q

108-95-2-----	Phenol	390	U
111-44-4-----	bis(2-Chloroethyl) ether	390	U
95-57-8-----	2-Chlorophenol	390	U
541-73-1-----	1,3-Dichlorobenzene	390	U
106-46-7-----	1,4-Dichlorobenzene	390	U
95-50-1-----	1,2-Dichlorobenzene	390	U
95-48-7-----	2-Methylphenol	390	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	390	U
106-44-5-----	4-Methylphenol	390	U
621-64-7-----	N-Nitroso-di-n-propylamine	390	U
67-72-1-----	Hexachloroethane	390	U
98-95-3-----	Nitrobenzene	390	U
78-59-1-----	Isophorone	390	U
88-75-5-----	2-Nitrophenol	390	U
105-67-9-----	2,4-Dimethylphenol	390	U
111-91-1-----	bis(2-Chloroethoxy) methane	390	U
120-83-2-----	2,4-Dichlorophenol	390	U
120-82-1-----	1,2,4-Trichlorobenzene	390	U
91-20-3-----	Naphthalene	390	U
106-47-8-----	4-Chloroaniline	390	U
87-68-3-----	Hexachlorobutadiene	390	U
59-50-7-----	4-Chloro-3-methylphenol	390	U
91-57-6-----	2-Methylnaphthalene	390	U
77-47-4-----	Hexachlorocyclopentadiene	390	U
88-06-2-----	2,4,6-Trichlorophenol	390	U
95-95-4-----	2,4,5-Trichlorophenol	980	U
91-58-7-----	2-Chloronaphthalene	390	U
88-74-4-----	2-Nitroaniline	980	U
131-11-3-----	Dimethylphthalate	390	U
208-96-8-----	Acenaphthylene	390	U
606-20-2-----	2,6-Dinitrotoluene	390	U
99-09-2-----	3-Nitroaniline	980	U
83-32-9-----	Acenaphthene	390	U

FORM I SV-1

OLM03.0
9-1-99

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP413

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950018

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050018A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 15. decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

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

51-28-5-----	2,4-Dinitrophenol	980	U
100-02-7-----	4-Nitrophenol	980	U
132-64-9-----	Dibenzofuran	390	U
121-14-2-----	2,4-Dinitrotoluene	390	U
84-66-2-----	Diethylphthalate	390	U
7005-72-3-----	4-Chlorophenyl-phenylether	390	U
86-73-7-----	Fluorene	390	U
100-01-6-----	4-Nitroaniline	980	U
534-52-1-----	4,6-Dinitro-2-methylphenol	980	U
86-30-6-----	N-nitrosodiphenylamine (1)	390	U
101-55-3-----	4-Bromophenyl-phenylether	390	U
118-74-1-----	Hexachlorobenzene	390	U
87-86-5-----	Pentachlorophenol	980	U
85-01-8-----	Phenanthrene	390	U
120-12-7-----	Anthracene	390	U
86-74-8-----	Carbazole	390	U
84-74-2-----	Di-n-butylphthalate	390	U
206-44-0-----	Fluoranthene	390	U
129-00-0-----	Pyrene	390	U
85-68-7-----	Butylbenzylphthalate	390	U
91-94-1-----	3,3'-Dichlorobenzidine	390	U
56-55-3-----	Benzo(a)anthracene	390	U
218-01-9-----	Chrysene	390	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	44	J
117-84-0-----	Di-n-octylphthalate	390	U
205-99-2-----	Benzo(b)fluoranthene	390	U
207-08-9-----	Benzo(k)fluoranthene	390	U
50-32-8-----	Benzo(a)pyrene	390	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	390	U
53-70-3-----	Dibenzo(a,h)anthracene	390	U
191-24-2-----	Benzo(g,h,i)perylene	390	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP 9-1-99

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP413

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950018

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050018A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 15 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

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

Number TICs found: 3

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.17	79	JN
2.	UNKNOWN AMIDE	18.11	140	J
3.	UNKNOWN	21.37	83	J↓
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP415

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950228

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: GH050228B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 24 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

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

108-95-2-----	Phenol	430	U
111-44-4-----	bis(2-Chloroethyl) ether	430	U
95-57-8-----	2-Chlorophenol	430	U
541-73-1-----	1,3-Dichlorobenzene	430	U
106-46-7-----	1,4-Dichlorobenzene	430	U
95-50-1-----	1,2-Dichlorobenzene	430	U
95-48-7-----	2-Methylphenol	430	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	430	U
106-44-5-----	4-Methylphenol	430	U
621-64-7-----	N-Nitroso-di-n-propylamine	430	U
67-72-1-----	Hexachloroethane	430	U
98-95-3-----	Nitrobenzene	430	U
78-59-1-----	Isophorone	430	U
88-75-5-----	2-Nitrophenol	430	U
105-67-9-----	2,4-Dimethylphenol	430	U
111-91-1-----	bis(2-Chloroethoxy) methane	430	U
120-83-2-----	2,4-Dichlorophenol	430	U
120-82-1-----	1,2,4-Trichlorobenzene	430	U
91-20-3-----	Naphthalene	430	U
106-47-8-----	4-Chloroaniline	430	U
87-68-3-----	Hexachlorobutadiene	430	U
59-50-7-----	4-Chloro-3-methylphenol	430	U
91-57-6-----	2-Methylnaphthalene	430	U
77-47-4-----	Hexachlorocyclopentadiene	430	U
88-06-2-----	2,4,6-Trichlorophenol	430	U
95-95-4-----	2,4,5-Trichlorophenol	1100	U
91-58-7-----	2-Chloronaphthalene	430	U
88-74-4-----	2-Nitroaniline	1100	U
131-11-3-----	Dimethylphthalate	430	U
208-96-8-----	Acenaphthylene	430	U
606-20-2-----	2,6-Dinitrotoluene	430	U
99-09-2-----	3-Nitroaniline	1100	U
83-32-9-----	Acenaphthene	430	U

FORM I SV-1

CP
9-1-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP415

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950228

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: GH050228B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 24 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

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

51-28-5-----	2,4-Dinitrophenol	1100	U
100-02-7-----	4-Nitrophenol	1100	U
132-64-9-----	Dibenzofuran	430	U
121-14-2-----	2,4-Dinitrotoluene	430	U
84-66-2-----	Diethylphthalate	430	U
7005-72-3-----	4-Chlorophenyl-phenylether	430	U
86-73-7-----	Fluorene	430	U
100-01-6-----	4-Nitroaniline	1100	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1100	U
86-30-6-----	N-nitrosodiphenylamine (1)	430	U
101-55-3-----	4-Bromophenyl-phenylether	430	U
118-74-1-----	Hexachlorobenzene	430	U
87-86-5-----	Pentachlorophenol	1100	U J
85-01-8-----	Phenanthrene	430	U
120-12-7-----	Anthracene	430	U
86-74-8-----	Carbazole	430	U
84-74-2-----	Di-n-butylphthalate	430	U
206-44-0-----	Fluoranthene	75	J
129-00-0-----	Pyrene	60	J
85-68-7-----	Butylbenzylphthalate	430	U
91-94-1-----	3,3'-Dichlorobenzidine	430	U
56-55-3-----	Benzo(a)anthracene	430	U
218-01-9-----	Chrysene	44	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	77	J
117-84-0-----	Di-n-octylphthalate	430	U
205-99-2-----	Benzo(b)fluoranthene	48	J
207-08-9-----	Benzo(k)fluoranthene	430	U
50-32-8-----	Benzo(a)pyrene	430	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	430	U
53-70-3-----	Dibenzo(a,h)anthracene	430	U
191-24-2-----	Benzo(g,h,i)perylene	430	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP415

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950228

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: GH050228B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 24 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

Number TICs found: 31

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN (BC) blank Cont.	6.62	220	JB R
2.	UNKNOWN	10.82	270	JN
3.	UNKNOWN	10.89	360	J
4.	UNKNOWN	10.98	250	J
5.	UNKNOWN	12.39	410	J
6.	SUBSTITUTED PHENANTHRENE	14.54	620	J
7.	SUBSTITUTED PHENANTHRENE	15.10	400	J
8.	UNKNOWN	15.93	340	J
9.	DDE	16.08	220	J
10.	UNKNOWN	16.21	210	J
11.	UNKNOWN	16.48	310	J
12.	UNKNOWN	16.91	320	J
13.	UNKNOWN	19.12	480	J
14.	UNKNOWN	19.93	1600	J
15.	UNKNOWN	21.52	3000	J
16.	UNKNOWN CARBOXYLIC ACID	22.16	310	J
17.	UNKNOWN	22.60	720	J
18.	UNKNOWN	22.80	330	J
19.	83-47-6 . GAMMA.-SITOSTEROL	23.24	6800	NJ
20.	UNKNOWN	23.55	1000	JN
21.	UNKNOWN	23.61	320	J
22.	UNKNOWN	23.70	690	J
23.	UNKNOWN	23.75	650	J
24.	UNKNOWN	24.09	790	J
25.	1058-61-3 STIGMAST-4-EN-3-ONE	24.32	3400	NJ
26.	UNKNOWN	24.69	520	JN
27.	UNKNOWN	24.80	330	J
28.	UNKNOWN	25.35	3200	J
29.	UNKNOWN	25.84	330	J
30.	UNKNOWN	25.93	380	J

FORM I SV-TIC

CP 9-1-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP415

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950228

Sample wt/vol: 30.1 (g/mL) G

Lab File ID: GH050228B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 24 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.3

Number TICs found: 31

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	26.32	310	JW
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP416

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950229

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050229B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

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

108-95-2-----	Phenol	350	U
111-44-4-----	bis(2-Chloroethyl) ether	350	U
95-57-8-----	2-Chlorophenol	350	U
541-73-1-----	1,3-Dichlorobenzene	350	U
106-46-7-----	1,4-Dichlorobenzene	350	U
95-50-1-----	1,2-Dichlorobenzene	350	U
95-48-7-----	2-Methylphenol	350	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5-----	4-Methylphenol	350	U
621-64-7-----	N-Nitroso-di-n-propylamine	350	U
67-72-1-----	Hexachloroethane	350	U
98-95-3-----	Nitrobenzene	350	U
78-59-1-----	Isophorone	350	U
88-75-5-----	2-Nitrophenol	350	U
105-67-9-----	2,4-Dimethylphenol	350	U
111-91-1-----	bis(2-Chloroethoxy) methane	350	U
120-83-2-----	2,4-Dichlorophenol	350	U
120-82-1-----	1,2,4-Trichlorobenzene	350	U
91-20-3-----	Naphthalene	350	U
106-47-8-----	4-Chloroaniline	350	U
87-68-3-----	Hexachlorobutadiene	350	U
59-50-7-----	4-Chloro-3-methylphenol	350	U
91-57-6-----	2-Methylnaphthalene	350	U
77-47-4-----	Hexachlorocyclopentadiene	350	U
88-06-2-----	2,4,6-Trichlorophenol	350	U
95-95-4-----	2,4,5-Trichlorophenol	890	U
91-58-7-----	2-Chloronaphthalene	350	U
88-74-4-----	2-Nitroaniline	890	U
131-11-3-----	Dimethylphthalate	350	U
208-96-8-----	Acenaphthylene	350	U
606-20-2-----	2,6-Dinitrotoluene	350	U
99-09-2-----	3-Nitroaniline	890	U
83-32-9-----	Acenaphthene	350	U

FORM I SV-1

CP 9-1-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP416

Lab Name: COMPUCHEM Contract: 68D50004

Lab Code: COMPU Case No.: 27165 SAS No.: SDG No.: JW542

Matrix: (soil/water) SOIL Lab Sample ID: 950229

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH050229B70

Level: (low/med) LOW Date Received: 07/10/99

% Moisture: 7 decanted: (Y/N) N Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

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

51-28-5-----2,4-Dinitrophenol	890	U
100-02-7-----4-Nitrophenol	890	U
132-64-9-----Dibenzofuran	350	U
121-14-2-----2,4-Dinitrotoluene	350	U
84-66-2-----Diethylphthalate	350	U
7005-72-3-----4-Chlorophenyl-phenylether	350	U
86-73-7-----Fluorene	350	U
100-01-6-----4-Nitroaniline	890	U
534-52-1-----4,6-Dinitro-2-methylphenol	890	U
86-30-6-----N-nitrosodiphenylamine (1)	350	U
101-55-3-----4-Bromophenyl-phenylether	350	U
118-74-1-----Hexachlorobenzene	350	U
87-86-5-----Pentachlorophenol	890	U J
85-01-8-----Phenanthrene	350	U
120-12-7-----Anthracene	350	U
86-74-8-----Carbazole	350	U
84-74-2-----Di-n-butylphthalate	350	U
206-44-0-----Fluoranthene	350	U
129-00-0-----Pyrene	350	U
85-68-7-----Butylbenzylphthalate	350	U
91-94-1-----3,3'-Dichlorobenzidine	350	U
56-55-3-----Benzo (a) anthracene	350	U
218-01-9-----Chrysene	350	U
117-81-7-----bis (2-Ethylhexyl) phthalate	41	J
117-84-0-----Di-n-octylphthalate	350	U
205-99-2-----Benzo (b) fluoranthene	350	U
207-08-9-----Benzo (k) fluoranthene	350	U
50-32-8-----Benzo (a) pyrene	350	U
193-39-5-----Indeno (1,2,3-cd) pyrene	350	U
53-70-3-----Dibenzo (a,h) anthracene	350	U
191-24-2-----Benzo (g,h,i) perylene	350	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP416

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950229

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050229B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.7

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

Number TICs found: 30

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	17.39	1100	J ✓
2.	UNKNOWN	17.53	920	J
3.	UNKNOWN	17.73	1500	J
4.	UNKNOWN	17.97	970	J
5.	UNKNOWN	18.17	1700	J
6.	UNKNOWN	18.35	1200	J
7.	UNKNOWN	18.44	1200	J
8.	UNKNOWN	18.68	1100	J
9.	UNKNOWN	18.78	1700	J
10.	UNKNOWN	18.91	1300	J
11.	UNKNOWN	18.98	920	J
12.	UNKNOWN	19.17	2600	J
13.	UNKNOWN	19.25	960	J
14.	UNKNOWN	19.32	1500	J
15.	UNKNOWN	19.54	2000	J
16.	UNKNOWN	19.59	780	J
17.	UNKNOWN	19.64	1300	J
18.	UNKNOWN	19.81	1400	J
19.	UNKNOWN	19.86	1000	J
20.	UNKNOWN	19.96	1100	J
21.	UNKNOWN	20.15	1000	J
22.	UNKNOWN	20.26	980	J
23.	UNKNOWN	20.79	1600	J
24.	UNKNOWN	20.89	670	J
25.	UNKNOWN	21.09	870	J
26.	UNKNOWN	21.46	1200	J
27.	UNKNOWN	21.85	760	J
28.	UNKNOWN	22.09	840	J
29.	UNKNOWN	22.17	730	J
30.	UNKNOWN	22.88	660	J ✓

FORM I SV-TIC

CP 9-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP417

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950230

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050230B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 34 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

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

CAS NO.

COMPOUND

Q

108-95-2-----	Phenol	500	U
111-44-4-----	bis(2-Chloroethyl) ether	500	U
95-57-8-----	2-Chlorophenol	500	U
541-73-1-----	1,3-Dichlorobenzene	500	U
106-46-7-----	1,4-Dichlorobenzene	500	U
95-50-1-----	1,2-Dichlorobenzene	500	U
95-48-7-----	2-Methylphenol	500	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	500	U
106-44-5-----	4-Methylphenol	500	U
621-64-7-----	N-Nitroso-di-n-propylamine	500	U
67-72-1-----	Hexachloroethane	500	U
98-95-3-----	Nitrobenzene	500	U
78-59-1-----	Isophorone	500	U
88-75-5-----	2-Nitrophenol	500	U
105-67-9-----	2,4-Dimethylphenol	500	U
111-91-1-----	bis(2-Chloroethoxy) methane	500	U
120-83-2-----	2,4-Dichlorophenol	500	U
120-82-1-----	1,2,4-Trichlorobenzene	500	U
91-20-3-----	Naphthalene	500	U
106-47-8-----	4-Chloroaniline	500	U
87-68-3-----	Hexachlorobutadiene	500	U
59-50-7-----	4-Chloro-3-methylphenol	500	U
91-57-6-----	2-Methylnaphthalene	500	U
77-47-4-----	Hexachlorocyclopentadiene	500	U
88-06-2-----	2,4,6-Trichlorophenol	500	U
95-95-4-----	2,4,5-Trichlorophenol	1200	U
91-58-7-----	2-Chloronaphthalene	500	U
88-74-4-----	2-Nitroaniline	1200	U
131-11-3-----	Dimethylphthalate	500	U
208-96-8-----	Acenaphthylene	500	U
606-20-2-----	2,6-Dinitrotoluene	500	U
99-09-2-----	3-Nitroaniline	1200	U
83-32-9-----	Acenaphthene	500	U

FORM I SV-1

68-1-99OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP417

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950230

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050230B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 34 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

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

51-28-5-----	2,4-Dinitrophenol	1200	U
100-02-7-----	4-Nitrophenol	1200	U
132-64-9-----	Dibenzofuran	500	U
121-14-2-----	2,4-Dinitrotoluene	500	U
84-66-2-----	Diethylphthalate	500	U
7005-72-3-----	4-Chlorophenyl-phenylether	500	U
86-73-7-----	Fluorene	500	U
100-01-6-----	4-Nitroaniline	1200	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1200	U
86-30-6-----	N-nitrosodiphenylamine (1)	500	U
101-55-3-----	4-Bromophenyl-phenylether	500	U
118-74-1-----	Hexachlorobenzene	500	U
87-86-5-----	Pentachlorophenol	1200	U J
85-01-8-----	Phenanthrene	500	U
120-12-7-----	Anthracene	500	U
86-74-8-----	Carbazole	500	U
84-74-2-----	Di-n-butylphthalate	500	U
206-44-0-----	Fluoranthene	500	U
129-00-0-----	Pyrene	500	U
85-68-7-----	Butylbenzylphthalate	500	U
91-94-1-----	3,3'-Dichlorobenzidine	500	U
56-55-3-----	Benzo(a)anthracene	500	U
218-01-9-----	Chrysene	500	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	89	J
117-84-0-----	Di-n-octylphthalate	500	U
205-99-2-----	Benzo(b)fluoranthene	500	U
207-08-9-----	Benzo(k)fluoranthene	500	U
50-32-8-----	Benzo(a)pyrene	500	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	500	U
53-70-3-----	Dibenzo(a,h)anthracene	500	U
191-24-2-----	Benzo(g,h,i)perylene	500	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP417

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950230

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050230B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 34 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.5

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN (BC) <i>blank cont.</i>	6.62	330	JB R
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-1-99

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW542

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949679

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049679B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

108-95-2-----	Phenol	350	U
111-44-4-----	bis(2-Chloroethyl) ether	350	U
95-57-8-----	2-Chlorophenol	350	U
541-73-1-----	1,3-Dichlorobenzene	350	U
106-46-7-----	1,4-Dichlorobenzene	350	U
95-50-1-----	1,2-Dichlorobenzene	350	U
95-48-7-----	2-Methylphenol	350	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5-----	4-Methylphenol	350	U
621-64-7-----	N-Nitroso-di-n-propylamine	350	U
67-72-1-----	Hexachloroethane	350	U
98-95-3-----	Nitrobenzene	350	U
78-59-1-----	Isophorone	350	U
88-75-5-----	2-Nitrophenol	350	U
105-67-9-----	2,4-Dimethylphenol	350	U
111-91-1-----	bis(2-Chloroethoxy)methane	350	U
120-83-2-----	2,4-Dichlorophenol	350	U
120-82-1-----	1,2,4-Trichlorobenzene	350	U
91-20-3-----	Naphthalene	350	U
106-47-8-----	4-Chloroaniline	350	U
87-68-3-----	Hexachlorobutadiene	350	U
59-50-7-----	4-Chloro-3-methylphenol	350	U
91-57-6-----	2-Methylnaphthalene	350	U
77-47-4-----	Hexachlorocyclopentadiene	350	U
88-06-2-----	2,4,6-Trichlorophenol	350	U
95-95-4-----	2,4,5-Trichlorophenol	890	U
91-58-7-----	2-Chloronaphthalene	350	U
88-74-4-----	2-Nitroaniline	890	U
131-11-3-----	Dimethylphthalate	350	U
208-96-8-----	Acenaphthylene	350	U
606-20-2-----	2,6-Dinitrotoluene	350	U
99-09-2-----	3-Nitroaniline	890	U
83-32-9-----	Acenaphthene	350	U

FORM I SV-1

CP
9-1-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW542

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949679

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049679B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

51-28-5-----	2,4-Dinitrophenol	890	U
100-02-7-----	4-Nitrophenol	890	U J
132-64-9-----	Dibenzofuran	350	U
121-14-2-----	2,4-Dinitrotoluene	350	U
84-66-2-----	Diethylphthalate	350	U
7005-72-3-----	4-Chlorophenyl-phenylether	350	U
86-73-7-----	Fluorene	350	U
100-01-6-----	4-Nitroaniline	890	U
534-52-1-----	4,6-Dinitro-2-methylphenol	890	U
86-30-6-----	N-nitrosodiphenylamine (1)	350	U
101-55-3-----	4-Bromophenyl-phenylether	350	U
118-74-1-----	Hexachlorobenzene	350	U
87-86-5-----	Pentachlorophenol	890	U
85-01-8-----	Phenanthrene	350	U
120-12-7-----	Anthracene	350	U
86-74-8-----	Carbazole	350	U
84-74-2-----	Di-n-butylphthalate	170	J
206-44-0-----	Fluoranthene	350	U
129-00-0-----	Pyrene	350	U
85-68-7-----	Butylbenzylphthalate	350	U
91-94-1-----	3,3'-Dichlorobenzidine	350	U
56-55-3-----	Benzo(a)anthracene	350	U
218-01-9-----	Chrysene	350	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	54	J
117-84-0-----	Di-n-octylphthalate	350	U
205-99-2-----	Benzo(b)fluoranthene	350	U
207-08-9-----	Benzo(k)fluoranthene	350	U
50-32-8-----	Benzo(a)pyrene	350	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	350	U
53-70-3-----	Dibenzo(a,h)anthracene	350	U
191-24-2-----	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW542

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949679

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049679B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

Number TICs found: 23

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.98	250	J ^N
2.	UNKNOWN	6.73	240	J
3.	UNKNOWN	10.34	260	J
4.	UNKNOWN	20.53	870	J
5.	UNKNOWN	20.88	860	J
6.	UNKNOWN	21.14	1000	J
7.	UNKNOWN	21.18	800	J
8.	UNKNOWN	21.63	980	J
9.	UNKNOWN	21.67	730	J
10.	UNKNOWN	21.76	1600	J
11.	UNKNOWN	21.90	1500	J
12.	UNKNOWN	22.39	960	J
13.	UNKNOWN	22.46	730	J
14.	UNKNOWN	22.53	1100	J
15.	UNKNOWN	22.67	810	J
16.	UNKNOWN	22.91	940	J
17.	UNKNOWN	23.02	670	J
18.	UNKNOWN	23.07	600	J
19.	UNKNOWN	23.19	850	J
20.	UNKNOWN	23.39	1200	J
21.	UNKNOWN	23.58	720	J
22.	UNKNOWN	24.35	460	J
23.	UNKNOWN	27.05	280	J ^V
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW545

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949690

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049690B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

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

108-95-2-----	Phenol	350	U
111-44-4-----	bis(2-Chloroethyl) ether	350	U
95-57-8-----	2-Chlorophenol	350	U
541-73-1-----	1,3-Dichlorobenzene	350	U
106-46-7-----	1,4-Dichlorobenzene	350	U
95-50-1-----	1,2-Dichlorobenzene	350	U
95-48-7-----	2-Methylphenol	350	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5-----	4-Methylphenol	350	U
621-64-7-----	N-Nitroso-di-n-propylamine	350	U
67-72-1-----	Hexachloroethane	350	U
98-95-3-----	Nitrobenzene	350	U
78-59-1-----	Isophorone	350	U
88-75-5-----	2-Nitrophenol	350	U
105-67-9-----	2,4-Dimethylphenol	350	U
111-91-1-----	bis(2-Chloroethoxy)methane	350	U
120-83-2-----	2,4-Dichlorophenol	350	U
120-82-1-----	1,2,4-Trichlorobenzene	350	U
91-20-3-----	Naphthalene	54	J
106-47-8-----	4-Chloroaniline	350	U
87-68-3-----	Hexachlorobutadiene	350	U
59-50-7-----	4-Chloro-3-methylphenol	350	U
91-57-6-----	2-Methylnaphthalene	66	J
77-47-4-----	Hexachlorocyclopentadiene	350	U
88-06-2-----	2,4,6-Trichlorophenol	350	U
95-95-4-----	2,4,5-Trichlorophenol	890	U
91-58-7-----	2-Chloronaphthalene	350	U
88-74-4-----	2-Nitroaniline	890	U
131-11-3-----	Dimethylphthalate	350	U
208-96-8-----	Acenaphthylene	350	U
606-20-2-----	2,6-Dinitrotoluene	350	U
99-09-2-----	3-Nitroaniline	890	U
83-32-9-----	Acenaphthene	350	U

FORM I SV-1

CP
G-145 OLM03.0

745

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW545

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949690

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049690B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

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

51-28-5-----	2,4-Dinitrophenol	890	U
100-02-7-----	4-Nitrophenol	890	U J
132-64-9-----	Dibenzofuran	350	U
121-14-2-----	2,4-Dinitrotoluene	350	U
84-66-2-----	Diethylphthalate	350	U
7005-72-3-----	4-Chlorophenyl-phenylether	350	U
86-73-7-----	Fluorene	350	U
100-01-6-----	4-Nitroaniline	890	U
534-52-1-----	4,6-Dinitro-2-methylphenol	890	U
86-30-6-----	N-nitrosodiphenylamine (1)	350	U
101-55-3-----	4-Bromophenyl-phenylether	350	U
118-74-1-----	Hexachlorobenzene	350	U
87-86-5-----	Pentachlorophenol	890	U
85-01-8-----	Phenanthrene	38	J
120-12-7-----	Anthracene	350	U
86-74-8-----	Carbazole	350	U
84-74-2-----	Di-n-butylphthalate	350	U
206-44-0-----	Fluoranthene	350	U
129-00-0-----	Pyrene	79	J
85-68-7-----	Butylbenzylphthalate	350	U
91-94-1-----	3,3'-Dichlorobenzidine	350	U
56-55-3-----	Benzo(a)anthracene	120	J
218-01-9-----	Chrysene	350	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	330	J
117-84-0-----	Di-n-octylphthalate	120	J
205-99-2-----	Benzo(b)fluoranthene	54	J
207-08-9-----	Benzo(k)fluoranthene	350	U
50-32-8-----	Benzo(a)pyrene	350	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	350	U
53-70-3-----	Dibenzo(a,h)anthracene	350	U
191-24-2-----	Benzo(g,h,i)perylene	57	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW545

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949690

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049690B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.8

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

Number TICs found: 30

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.14	770	J ^N
2.	UNKNOWN	20.17	330	J
3.	UNKNOWN	20.36	500	J
4.	UNKNOWN	20.59	540	J
5.	UNKNOWN	20.80	320	J
6.	UNKNOWN	20.94	860	J
7.	UNKNOWN	21.02	760	J
8.	UNKNOWN	21.20	1100	J
9.	UNKNOWN	21.23	770	J
10.	UNKNOWN	21.38	490	J
11.	UNKNOWN	21.45	760	J
12.	UNKNOWN	21.71	850	J
13.	UNKNOWN	21.74	600	J
14.	UNKNOWN	21.83	830	J
15.	UNKNOWN PHTHALATE	21.88	650	J
16.	UNKNOWN	21.99	720	J
17.	UNKNOWN	22.02	900	J
18.	UNKNOWN	22.30	580	J
19.	UNKNOWN	22.48	780	J
20.	UNKNOWN	22.55	700	J
21.	UNKNOWN	22.64	730	J
22.	UNKNOWN	22.78	710	J
23.	UNKNOWN	22.92	600	J
24.	UNKNOWN	23.02	680	J
25.	UNKNOWN	23.13	520	J
26.	UNKNOWN	23.18	450	J
27.	UNKNOWN	23.30	680	J
28.	UNKNOWN	23.50	980	J
29.	UNKNOWN	23.69	480	J
30.	UNKNOWN	23.78	490	J [✓]

FORM I SV-TIC

CP 9-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW546

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949691

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049691B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 20 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl) ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-di-n-propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy) methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-methylphenol	410	U
91-57-6	2-Methylnaphthalene	58	J
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	410	U

FORM I SV-1

CPG-1-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW546

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949691

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049691B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 20 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

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

CAS NO.

COMPOUND

Q

51-28-5-----	2,4-Dinitrophenol	1000	U
100-02-7-----	4-Nitrophenol	1000	U J
132-64-9-----	Dibenzofuran	410	U
121-14-2-----	2,4-Dinitrotoluene	410	U
84-66-2-----	Diethylphthalate	410	U
7005-72-3-----	4-Chlorophenyl-phenylether	410	U
86-73-7-----	Fluorene	410	U
100-01-6-----	4-Nitroaniline	1000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1000	U
86-30-6-----	N-nitrosodiphenylamine (1)	410	U
101-55-3-----	4-Bromophenyl-phenylether	410	U
118-74-1-----	Hexachlorobenzene	410	U
87-86-5-----	Pentachlorophenol	1000	U
85-01-8-----	Phenanthrene	66	J
120-12-7-----	Anthracene	410	U
86-74-8-----	Carbazole	410	U
84-74-2-----	Di-n-butylphthalate	410	U
206-44-0-----	Fluoranthene	410	U
129-00-0-----	Pyrene	410	U
85-68-7-----	Butylbenzylphthalate	410	U
91-94-1-----	3,3'-Dichlorobenzidine	410	U
56-55-3-----	Benzo (a) anthracene	410	U
218-01-9-----	Chrysene	410	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	270	J
117-84-0-----	Di-n-octylphthalate	410	U
205-99-2-----	Benzo (b) fluoranthene	410	U
207-08-9-----	Benzo (k) fluoranthene	410	U
50-32-8-----	Benzo (a) pyrene	410	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	410	U
53-70-3-----	Dibenzo (a,h) anthracene	410	U
191-24-2-----	Benzo (g,h,i) perylene	410	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW546

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949691

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049691B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 20 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.2

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

Number TICs found: 24

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN (BC) <i>blank cont.</i>	5.39	350	J <i>R</i>
2.	UNKNOWN	6.00	430	J <i>N</i>
3.	UNKNOWN <i>blank cont.</i>	15.01	900	J <i>N</i>
4.	UNKNOWN CARBOXYLIC ACID	15.19	3200	J <i>R</i>
5.	UNKNOWN	16.38	380	J <i>N</i>
6.	UNKNOWN CARBOXYLIC ACID	16.61	7100	J
7.	UNKNOWN CARBOXYLIC ACID	16.73	960	J
8.	UNKNOWN	17.34	610	J
9.	UNKNOWN	18.36	230	J
10.	UNKNOWN	21.65	510	J
11.	UNKNOWN	21.87	360	J
12.	UNKNOWN	21.97	520	J
13.	UNKNOWN	22.20	440	J
14.	UNKNOWN	22.72	270	J
15.	UNKNOWN	22.99	310	J
16.	UNKNOWN	23.16	220	J
17.	UNKNOWN	23.44	360	J
18.	UNKNOWN	25.21	240	J
19.	UNKNOWN	26.53	240	J
20.	UNKNOWN	27.21	200	J
21.	UNKNOWN	27.65	420	J
22.	UNKNOWN	28.16	170	J
23.	UNKNOWN	28.51	280	J
24.	UNKNOWN	29.32	270	J <i>✓</i>
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW564

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949692

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049692B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

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

108-95-2-----	Phenol	350	U
111-44-4-----	bis(2-Chloroethyl) ether	350	U
95-57-8-----	2-Chlorophenol	350	U
541-73-1-----	1,3-Dichlorobenzene	350	U
106-46-7-----	1,4-Dichlorobenzene	350	U
95-50-1-----	1,2-Dichlorobenzene	350	U
95-48-7-----	2-Methylphenol	350	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5-----	4-Methylphenol	350	U
621-64-7-----	N-Nitroso-di-n-propylamine	350	U
67-72-1-----	Hexachloroethane	350	U
98-95-3-----	Nitrobenzene	350	U
78-59-1-----	Isophorone	350	U
88-75-5-----	2-Nitrophenol	350	U
105-67-9-----	2,4-Dimethylphenol	350	U
111-91-1-----	bis(2-Chloroethoxy)methane	350	U
120-83-2-----	2,4-Dichlorophenol	350	U
120-82-1-----	1,2,4-Trichlorobenzene	350	U
91-20-3-----	Naphthalene	350	U
106-47-8-----	4-Chloroaniline	350	U
87-68-3-----	Hexachlorobutadiene	350	U
59-50-7-----	4-Chloro-3-methylphenol	350	U
91-57-6-----	2-Methylnaphthalene	350	U
77-47-4-----	Hexachlorocyclopentadiene	350	U
88-06-2-----	2,4,6-Trichlorophenol	350	U
95-95-4-----	2,4,5-Trichlorophenol	890	U
91-58-7-----	2-Chloronaphthalene	350	U
88-74-4-----	2-Nitroaniline	890	U
131-11-3-----	Dimethylphthalate	350	U
208-96-8-----	Acenaphthylene	350	U
606-20-2-----	2,6-Dinitrotoluene	350	U
99-09-2-----	3-Nitroaniline	890	U
83-32-9-----	Acenaphthene	350	U

FORM I SV-1

CP 9-1-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW564

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949692

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049692B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

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

51-28-5-----2,4-Dinitrophenol	890	U
100-02-7-----4-Nitrophenol	890	U J
132-64-9-----Dibenzofuran	350	U
121-14-2-----2,4-Dinitrotoluene	350	U
84-66-2-----Diethylphthalate	350	U
7005-72-3-----4-Chlorophenyl-phenylether	350	U
86-73-7-----Fluorene	350	U
100-01-6-----4-Nitroaniline	890	U
534-52-1-----4,6-Dinitro-2-methylphenol	890	U
86-30-6-----N-nitrosodiphenylamine (1)	350	U
101-55-3-----4-Bromophenyl-phenylether	350	U
118-74-1-----Hexachlorobenzene	350	U
87-86-5-----Pentachlorophenol	890	U
85-01-8-----Phenanthrene	350	U
120-12-7-----Anthracene	350	U
86-74-8-----Carbazole	350	U
84-74-2-----Di-n-butylphthalate	350	U
206-44-0-----Fluoranthene	350	U
129-00-0-----Pyrene	350	U
85-68-7-----Butylbenzylphthalate	350	U
91-94-1-----3,3'-Dichlorobenzidine	350	U
56-55-3-----Benzo(a)anthracene	350	U
218-01-9-----Chrysene	350	U
117-81-7-----bis(2-Ethylhexyl)phthalate	86	J
117-84-0-----Di-n-octylphthalate	350	U
205-99-2-----Benzo(b)fluoranthene	350	U
207-08-9-----Benzo(k)fluoranthene	350	U
50-32-8-----Benzo(a)pyrene	350	U
193-39-5-----Indeno(1,2,3-cd)pyrene	350	U
53-70-3-----Dibenzo(a,h)anthracene	350	U
191-24-2-----Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW564

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949692

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049692B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 79-92-5	CAMPHENE	5.61	200	NJ
2.	UNKNOWN	5.89	370	JN
3.	UNKNOWN	6.75	320	J
4.	UNKNOWN	6.96	190	J
5.	UNKNOWN	10.08	260	J
6.	UNKNOWN	10.38	930	J
7.	UNKNOWN	10.49	320	J
8.	UNKNOWN	10.56	320	J
9.	UNKNOWN	10.68	220	J
10.	UNKNOWN	21.25	250	J
11.	UNKNOWN	21.44	310	J
12.	UNKNOWN	21.69	700	J
13.	UNKNOWN	21.74	530	J
14.	UNKNOWN	21.81	500	J
15.	UNKNOWN	21.97	1100	J
16.	UNKNOWN	22.30	550	J
17.	UNKNOWN	22.46	500	J
18.	UNKNOWN	22.53	490	J
19.	UNKNOWN	22.62	370	J
20.	UNKNOWN	22.76	320	J
21.	UNKNOWN	22.88	290	J
22.	UNKNOWN	23.02	420	J
23.	UNKNOWN	23.09	280	J
24.	UNKNOWN	23.28	270	J
25.	UNKNOWN	23.48	320	J
26.	UNKNOWN	23.67	250	J
27.	UNKNOWN	23.76	380	J
28.	UNKNOWN	24.46	320	J
29.	UNKNOWN	28.17	290	J
30.	UNKNOWN	29.10	390	J

FORM I SV-TIC

CP 4-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW565

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949693

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049693B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 20 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

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

108-95-2-----	Phenol	410	U
111-44-4-----	bis(2-Chloroethyl) ether	410	U
95-57-8-----	2-Chlorophenol	410	U
541-73-1-----	1,3-Dichlorobenzene	410	U
106-46-7-----	1,4-Dichlorobenzene	410	U
95-50-1-----	1,2-Dichlorobenzene	410	U
95-48-7-----	2-Methylphenol	410	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5-----	4-Methylphenol	66	J
621-64-7-----	N-Nitroso-di-n-propylamine	410	U
67-72-1-----	Hexachloroethane	410	U
98-95-3-----	Nitrobenzene	410	U
78-59-1-----	Isophorone	410	U
88-75-5-----	2-Nitrophenol	410	U
105-67-9-----	2,4-Dimethylphenol	410	U
111-91-1-----	bis(2-Chloroethoxy)methane	410	U
120-83-2-----	2,4-Dichlorophenol	410	U
120-82-1-----	1,2,4-Trichlorobenzene	410	U
91-20-3-----	Naphthalene	410	U
106-47-8-----	4-Chloroaniline	410	U
87-68-3-----	Hexachlorobutadiene	410	U
59-50-7-----	4-Chloro-3-methylphenol	410	U
91-57-6-----	2-Methylnaphthalene	410	U
77-47-4-----	Hexachlorocyclopentadiene	410	U
88-06-2-----	2,4,6-Trichlorophenol	410	U
95-95-4-----	2,4,5-Trichlorophenol	1000	U
91-58-7-----	2-Chloronaphthalene	410	U
88-74-4-----	2-Nitroaniline	1000	U
131-11-3-----	Dimethylphthalate	410	U
208-96-8-----	Acenaphthylene	410	U
606-20-2-----	2,6-Dinitrotoluene	410	U
99-09-2-----	3-Nitroaniline	1000	U
83-32-9-----	Acenaphthene	410	U

FORM I SV-1

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW565

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949693

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049693B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 20 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

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

CAS NO.

COMPOUND

Q

51-28-5-----	2,4-Dinitrophenol	1000	U
100-02-7-----	4-Nitrophenol	1000	U J
132-64-9-----	Dibenzofuran	410	U
121-14-2-----	2,4-Dinitrotoluene	410	U
84-66-2-----	Diethylphthalate	49	J
7005-72-3-----	4-Chlorophenyl-phenylether	410	U
86-73-7-----	Fluorene	410	U
100-01-6-----	4-Nitroaniline	1000	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1000	U
86-30-6-----	N-nitrosodiphenylamine (1)	410	U
101-55-3-----	4-Bromophenyl-phenylether	410	U
118-74-1-----	Hexachlorobenzene	410	U
87-86-5-----	Pentachlorophenol	1000	U
85-01-8-----	Phenanthrene	410	U
120-12-7-----	Anthracene	410	U
86-74-8-----	Carbazole	410	U
84-74-2-----	Di-n-butylphthalate	410	U
206-44-0-----	Fluoranthene	410	U
129-00-0-----	Pyrene	410	U
85-68-7-----	Butylbenzylphthalate	410	U
91-94-1-----	3,3'-Dichlorobenzidine	410	U
56-55-3-----	Benzo(a)anthracene	410	U
218-01-9-----	Chrysene	410	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	68	J
117-84-0-----	Di-n-octylphthalate	410	U
205-99-2-----	Benzo(b)fluoranthene	410	U
207-08-9-----	Benzo(k)fluoranthene	410	U
50-32-8-----	Benzo(a)pyrene	410	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	410	U
53-70-3-----	Dibenzo(a,h)anthracene	410	U
191-24-2-----	Benzo(g,h,i)perylene	410	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP 4-1-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW565

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949693

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049693B66

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: 20 decanted: (Y/N) N

Date Extracted: 07/08/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

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

Number TICs found: 12

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN (BC) Lab Cont.	5.40	250	JB R
2.	UNKNOWN	5.54	110	JN
3.	UNKNOWN	6.31	190	JN
4.	SUBSTITUTED BENZENE	6.51	100	JN
5. 464-48-2	BICYCLO[2.2.1]HEPTAN-2-ONE,	7.98	120	NJ
6.	UNKNOWN CARBOXYLIC ACID	8.21	220	JN
7.	UNKNOWN CARBOXYLIC ACID Lab Cont.	15.13	230	J R
8.	UNKNOWN	21.51	170	JN
9.	UNKNOWN	21.72	340	J
10.	UNKNOWN	21.78	180	J
11.	UNKNOWN	22.58	100	J
12.	UNKNOWN	24.42	120	J
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-3
9-1-99 OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW574

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949971

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049971A66

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

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

108-95-2	Phenol	350	U
111-44-4	bis(2-Chloroethyl) ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy) methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	890	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	890	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
99-09-2	3-Nitroaniline	890	U
83-32-9	Acenaphthene	350	U

FORM I SV-1

CP
9-1-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW574

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949971

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049971A66

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

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

51-28-5-----2,4-Dinitrophenol	890	U
100-02-7-----4-Nitrophenol	890	U
132-64-9-----Dibenzofuran	350	U
121-14-2-----2,4-Dinitrotoluene	350	U
84-66-2-----Diethylphthalate	350	U
7005-72-3-----4-Chlorophenyl-phenylether	350	U
86-73-7-----Fluorene	350	U
100-01-6-----4-Nitroaniline	890	U
534-52-1-----4,6-Dinitro-2-methylphenol	890	U
86-30-6-----N-nitrosodiphenylamine (1)	350	U
101-55-3-----4-Bromophenyl-phenylether	350	U
118-74-1-----Hexachlorobenzene	350	U
87-86-5-----Pentachlorophenol	890	U
85-01-8-----Phenanthrene	68	J
120-12-7-----Anthracene	350	U
86-74-8-----Carbazole	350	U
84-74-2-----Di-n-butylphthalate	350	U
206-44-0-----Fluoranthene	140	J
129-00-0-----Pyrene	190	J
85-68-7-----Butylbenzylphthalate	350	U
91-94-1-----3,3'-Dichlorobenzidine	350	U
56-55-3-----Benzo (a) anthracene	51	J
218-01-9-----Chrysene	59	J
117-81-7-----bis(2-Ethylhexyl)phthalate	580	
117-84-0-----Di-n-octylphthalate	350	U
205-99-2-----Benzo (b) fluoranthene	95	J
207-08-9-----Benzo (k) fluoranthene	350	U
50-32-8-----Benzo (a) pyrene	93	J
193-39-5-----Indeno (1,2,3-cd) pyrene	67	J
53-70-3-----Dibenzo (a,h) anthracene	350	U
191-24-2-----Benzo (g,h,i) perylene	120	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW574

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949971

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049971A66

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

Number TICs found: 20

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

COMP. NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.63	110	JN
2.	UNKNOWN	10.19	110	J
3.	UNKNOWN	10.24	170	J
4.	UNKNOWN	20.39	75	J
5.	UNKNOWN	20.74	92	J
6.	UNKNOWN	21.14	72	J
7.	UNKNOWN	21.27	86	J
8.	UNKNOWN	21.55	86	J
9.	UNKNOWN	21.62	74	J
10.	UNKNOWN	21.81	190	J
11.	UNKNOWN	22.39	120	J
12.	UNKNOWN	22.76	82	J
13.	UNKNOWN	22.84	110	J
14.	UNKNOWN	22.91	89	J
15.	UNKNOWN	23.02	80	J
16.	UNKNOWN	23.19	200	J
17.	UNKNOWN	23.39	200	J
18.	UNKNOWN	24.14	180	J
19.	UNKNOWN	24.74	90	J
20.	UNKNOWN	27.42	73	J
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW575

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949972

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049972A66

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: 4 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

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

108-95-2	Phenol	340	U
111-44-4	bis(2-Chloroethyl) ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
95-50-1	1,2-Dichlorobenzene	340	U
95-48-7	2-Methylphenol	340	U
108-60-1	2,2'-oxybis(1-Chloropropane)	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	N-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
111-91-1	bis(2-Chloroethoxy) methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	54	J
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	860	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	860	U
131-11-3	Dimethylphthalate	340	U
208-96-8	Acenaphthylene	340	U
606-20-2	2,6-Dinitrotoluene	340	U
99-09-2	3-Nitroaniline	860	U
83-32-9	Acenaphthene	410	

FORM I SV-1

CP 9-1-99 OLM03.0

984

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW575

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949972

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049972A66

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: 4 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

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

51-28-5-----	2,4-Dinitrophenol	860	U
100-02-7-----	4-Nitrophenol	860	U
132-64-9-----	Dibenzofuran	210	J
121-14-2-----	2,4-Dinitrotoluene	340	U
84-66-2-----	Diethylphthalate	340	U
7005-72-3-----	4-Chlorophenyl-phenylether	340	U
86-73-7-----	Fluorene	360	
100-01-6-----	4-Nitroaniline	860	U
534-52-1-----	4,6-Dinitro-2-methylphenol	860	U
86-30-6-----	N-nitrosodiphenylamine (1)	340	U
101-55-3-----	4-Bromophenyl-phenylether	340	U
118-74-1-----	Hexachlorobenzene	340	U
87-86-5-----	Pentachlorophenol	860	U
85-01-8-----	Phenanthrene	5700	J
120-12-7-----	Anthracene	1500	
86-74-8-----	Carbazole	1200	
84-74-2-----	Di-n-butylphthalate	340	U
206-44-0-----	Fluoranthene	6700	J
129-00-0-----	Pyrene	5100	J
85-68-7-----	Butylbenzylphthalate	340	U
91-94-1-----	3,3'-Dichlorobenzidine	340	U
56-55-3-----	Benzo (a) anthracene	3800	J
218-01-9-----	Chrysene	2900	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	39	J
117-84-0-----	Di-n-octylphthalate	340	U
205-99-2-----	Benzo (b) fluoranthene	3400	J
207-08-9-----	Benzo (k) fluoranthene	1200	
50-32-8-----	Benzo (a) pyrene	2200	
193-39-5-----	Indeno (1,2,3-cd) pyrene	1200	
53-70-3-----	Dibenzo (a,h) anthracene	420	
191-24-2-----	Benzo (g,h,i) perylene	480	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP 9-1-97 OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW575

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949972

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049972A66

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: 4 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.6

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

Number TICs found: 30

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.88	440	J ^N
2.	METHYLPHENANTHRENE	14.76	610	J
3.	METHYLPHENANTHRENE	14.82	840	J
4.	METHYLANTHRACENE	14.90	350	J
5.	CYCLOBUTAPHENANTHRENE	14.96	870	J
6.	METHYLANTHRACENE	15.01	610	J
7.	DIMETHYLPHENANTHRENE	15.81	320	J
8.	BENZONAPHTHOFURAN	16.83	380	J
9.	BENZOFLUORENE	17.04	340	J
10.	BENZOFLUORENE	17.27	1200	J
11.	BENZOFLUORENE	17.41	740	J
12.	METHYLPYRENE	17.48	610	J
13.	UNKNOWN	18.65	620	J
14.	UNKNOWN	18.74	310	J
15.	UNKNOWN	19.62	430	J
16.	METHYLCHRYSENE	20.04	560	J
17.	UNKNOWN	20.11	310	J
18.	UNKNOWN	20.23	430	J
19.	UNKNOWN	20.34	340	J
20.	UNKNOWN	21.13	310	J
21.	UNKNOWN	21.84	560	J
22.	BENZOPYRENE	21.97	1300	J
23.	BENZOPYRENE	22.23	530	J
24.	UNKNOWN	22.56	960	J
25.	UNKNOWN	22.76	380	J
26.	UNKNOWN	22.97	350	J
27.	UNKNOWN	23.14	380	J
28.	UNKNOWN	24.46	390	J
29.	UNKNOWN PAH	29.07	510	J
30.	UNKNOWN PAH	29.28	360	J ^V

FORM I SV-TIC

CP 4-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW575DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949972

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GD049972A66

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: 4 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 7.6

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

108-95-2-----	Phenol	1700	U
111-44-4-----	bis(2-Chloroethyl) ether	1700	U
95-57-8-----	2-Chlorophenol	1700	U
541-73-1-----	1,3-Dichlorobenzene	1700	U
106-46-7-----	1,4-Dichlorobenzene	1700	U
95-50-1-----	1,2-Dichlorobenzene	1700	U
95-48-7-----	2-Methylphenol	1700	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	1700	U
106-44-5-----	4-Methylphenol	1700	U
621-64-7-----	N-Nitroso-di-n-propylamine	1700	U
67-72-1-----	Hexachloroethane	1700	U
98-95-3-----	Nitrobenzene	1700	U
78-59-1-----	Isophorone	1700	U
88-75-5-----	2-Nitrophenol	1700	U
105-67-9-----	2,4-Dimethylphenol	1700	U
111-91-1-----	bis(2-Chloroethoxy)methane	1700	U
120-83-2-----	2,4-Dichlorophenol	1700	U
120-82-1-----	1,2,4-Trichlorobenzene	1700	U
91-20-3-----	Naphthalene	1700	U
106-47-8-----	4-Chloroaniline	1700	U
87-68-3-----	Hexachlorobutadiene	1700	U
59-50-7-----	4-Chloro-3-methylphenol	1700	U
91-57-6-----	2-Methylnaphthalene	1700	U
77-47-4-----	Hexachlorocyclopentadiene	1700	U
88-06-2-----	2,4,6-Trichlorophenol	1700	U
95-95-4-----	2,4,5-Trichlorophenol	4300	U
91-58-7-----	2-Chloronaphthalene	1700	U
88-74-4-----	2-Nitroaniline	4300	U
131-11-3-----	Dimethylphthalate	1700	U
208-96-8-----	Acenaphthylene	1700	U
606-20-2-----	2,6-Dinitrotoluene	1700	U
99-09-2-----	3-Nitroaniline	4300	U
83-32-9-----	Acenaphthene	390	U

FORM I SV-1

CP
9-1-99 OLM03.0

1049

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW575DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949972

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GD049972A66

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: 4 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 7.6

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

51-28-5-----2,4-Dinitrophenol	4300	U
100-02-7-----4-Nitrophenol	4300	U
132-64-9-----Dibenzofuran	200	DJ
121-14-2-----2,4-Dinitrotoluene	1700	U
84-66-2-----Diethylphthalate	1700	U
7005-72-3-----4-Chlorophenyl-phenylether	1700	U
86-73-7-----Fluorene	340	DJ
100-01-6-----4-Nitroaniline	4300	U
534-52-1-----4,6-Dinitro-2-methylphenol	4300	U
86-30-6-----N-nitrosodiphenylamine (1)	1700	U
101-55-3-----4-Bromophenyl-phenylether	1700	U
118-74-1-----Hexachlorobenzene	1700	U
87-86-5-----Pentachlorophenol	4300	U
85-01-8-----Phenanthrene	5600	DJ
120-12-7-----Anthracene	1500	DJ
86-74-8-----Carbazole	1100	DJ
84-74-2-----Di-n-butylphthalate	1700	U
206-44-0-----Fluoranthene	6400	DJ
129-00-0-----Pyrene	6200	DJ
85-68-7-----Butylbenzylphthalate	1700	U
91-94-1-----3,3'-Dichlorobenzidine	1700	U
56-55-3-----Benzo(a)anthracene	3200	DJ
218-01-9-----Chrysene	3200	DJ
117-81-7-----bis(2-Ethylhexyl)phthalate	1700	U
117-84-0-----Di-n-octylphthalate	1700	U
205-99-2-----Benzo(b)fluoranthene	2900	DJ
207-08-9-----Benzo(k)fluoranthene	1100	DJ
50-32-8-----Benzo(a)pyrene	2000	DJ
193-39-5-----Indeno(1,2,3-cd)pyrene	1100	DJ
53-70-3-----Dibenzo(a,h)anthracene	320	DJ
191-24-2-----Benzo(g,h,i)perylene	450	DJ

(1) -- Cannot be separated from Diphenylamine

CP9-1-99

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW575DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949972

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GD049972A66

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: 4 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.52	390	JP N
2.	METHYLANTHRACENE	14.61	460	JP
3.	METHYLANTHRACENE	14.64	710	JP
4.	CYCLOPENTAPHENANTHRENE	14.78	790	JP
5.	METHYLANTHRACENE	14.83	480	JP
6.	PHENYLNAPHTHALENE	15.17	380	JP
7.	BENZOFLUORENE	17.06	740	JP
8.	BENZOFLUORENE	17.22	460	JP
9.	UNKNOWN	17.27	400	JP
10.	UNKNOWN	18.13	470	JP
11.	UNKNOWN	18.44	370	JP
12.	METHYLTRIPHENYLENE	19.83	360	JP
13.	BENZOFLUORANTHENE	21.72	490	JP
14.	UNKNOWN	23.84	550	JP
15.	UNKNOWN	23.91	360	JP
16.	UNKNOWN	24.09	960	JP
17.	UNKNOWN PAH	24.54	490	JP
18.	UNKNOWN PAH	24.77	1000	JP
19.	UNKNOWN	25.39	2200	JP
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-1-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW578

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950019

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050019A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

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

108-95-2-----	Phenol	350	U
111-44-4-----	bis(2-Chloroethyl) ether	350	U
95-57-8-----	2-Chlorophenol	350	U
541-73-1-----	1,3-Dichlorobenzene	350	U
106-46-7-----	1,4-Dichlorobenzene	350	U
95-50-1-----	1,2-Dichlorobenzene	350	U
95-48-7-----	2-Methylphenol	350	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5-----	4-Methylphenol	350	U
621-64-7-----	N-Nitroso-di-n-propylamine	350	U
67-72-1-----	Hexachloroethane	350	U
98-95-3-----	Nitrobenzene	350	U
78-59-1-----	Isophorone	350	U
88-75-5-----	2-Nitrophenol	350	U
105-67-9-----	2,4-Dimethylphenol	350	U
111-91-1-----	bis(2-Chloroethoxy) methane	350	U
120-83-2-----	2,4-Dichlorophenol	350	U
120-82-1-----	1,2,4-Trichlorobenzene	350	U
91-20-3-----	Naphthalene	48	J
106-47-8-----	4-Chloroaniline	350	U
87-68-3-----	Hexachlorobutadiene	350	U
59-50-7-----	4-Chloro-3-methylphenol	350	U
91-57-6-----	2-Methylnaphthalene	290	J
77-47-4-----	Hexachlorocyclopentadiene	350	U
88-06-2-----	2,4,6-Trichlorophenol	350	U
95-95-4-----	2,4,5-Trichlorophenol	890	U
91-58-7-----	2-Chloronaphthalene	350	U
88-74-4-----	2-Nitroaniline	890	U
131-11-3-----	Dimethylphthalate	350	U
208-96-8-----	Acenaphthylene	350	U
606-20-2-----	2,6-Dinitrotoluene	350	U
99-09-2-----	3-Nitroaniline	890	U
83-32-9-----	Acenaphthene	350	U

FORM I SV-1

CP 9-1-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW578

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950019

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050019A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

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

51-28-5-----2,4-Dinitrophenol	890	U
100-02-7-----4-Nitrophenol	890	U
132-64-9-----Dibenzofuran	350	U
121-14-2-----2,4-Dinitrotoluene	350	U
84-66-2-----Diethylphthalate	350	U
7005-72-3-----4-Chlorophenyl-phenylether	350	U
86-73-7-----Fluorene	140	J
100-01-6-----4-Nitroaniline	890	U
534-52-1-----4,6-Dinitro-2-methylphenol	890	U
86-30-6-----N-nitrosodiphenylamine (1)	350	U
101-55-3-----4-Bromophenyl-phenylether	350	U
118-74-1-----Hexachlorobenzene	350	U
87-86-5-----Pentachlorophenol	890	U
85-01-8-----Phenanthrene	250	J
120-12-7-----Anthracene	350	U
86-74-8-----Carbazole	350	U
84-74-2-----Di-n-butylphthalate	350	U
206-44-0-----Fluoranthene	350	U
129-00-0-----Pyrene	36	J
85-68-7-----Butylbenzylphthalate	350	U
91-94-1-----3,3'-Dichlorobenzidine	350	U
56-55-3-----Benzo (a) anthracene	350	U
218-01-9-----Chrysene	350	U
117-81-7-----bis (2-Ethylhexyl) phthalate	72	J
117-84-0-----Di-n-octylphthalate	350	U
205-99-2-----Benzo (b) fluoranthene	350	U
207-08-9-----Benzo (k) fluoranthene	350	U
50-32-8-----Benzo (a) pyrene	350	U
193-39-5-----Indeno (1,2,3-cd) pyrene	350	U
53-70-3-----Dibenzo (a,h) anthracene	350	U
191-24-2-----Benzo (g,h,i) perylene	350	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP
9-1-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW578

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950019

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050019A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.1

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

Number TICs found: 23

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.50	540	J ^N
2.	UNKNOWN	11.70	540	J
3.	UNKNOWN	11.77	700	J
4.	UNKNOWN	11.89	930	J
5.	UNKNOWN	12.03	780	J
6.	UNKNOWN	12.36	740	J
7.	UNKNOWN	12.75	140	J
8.	UNKNOWN	12.85	160	J
9.	UNKNOWN	12.91	120	J
10.	UNKNOWN	13.34	290	J
11.	UNKNOWN	13.43	140	J
12.	UNKNOWN	13.48	190	J
13.	UNKNOWN	13.59	160	J
14.	UNKNOWN	14.04	190	J
15.	UNKNOWN	14.13	290	J
16.	UNKNOWN	14.38	210	J
17.	UNKNOWN	14.57	130	J
18.	UNKNOWN	14.73	150	J
19.	UNKNOWN	14.85	260	J
20.	UNKNOWN	14.99	180	J
21.	UNKNOWN	15.43	150	J
22.	UNKNOWN	15.59	130	J
23.	UNKNOWN	21.81	830	J [✓]
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CPG-1-95
OLM03.0

1100

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW579

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950020

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050020A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 13 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

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

108-95-2-----	Phenol	380	U
111-44-4-----	bis(2-Chloroethyl) ether	380	U
95-57-8-----	2-Chlorophenol	380	U
541-73-1-----	1,3-Dichlorobenzene	380	U
106-46-7-----	1,4-Dichlorobenzene	380	U
95-50-1-----	1,2-Dichlorobenzene	380	U
95-48-7-----	2-Methylphenol	380	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	380	U
106-44-5-----	4-Methylphenol	380	U
621-64-7-----	N-Nitroso-di-n-propylamine	380	U
67-72-1-----	Hexachloroethane	380	U
98-95-3-----	Nitrobenzene	380	U
78-59-1-----	Isophorone	380	U
88-75-5-----	2-Nitrophenol	380	U
105-67-9-----	2,4-Dimethylphenol	380	U
111-91-1-----	bis(2-Chloroethoxy) methane	380	U
120-83-2-----	2,4-Dichlorophenol	380	U
120-82-1-----	1,2,4-Trichlorobenzene	380	U
91-20-3-----	Naphthalene	150	J
106-47-8-----	4-Chloroaniline	380	U
87-68-3-----	Hexachlorobutadiene	380	U
59-50-7-----	4-Chloro-3-methylphenol	380	U
91-57-6-----	2-Methylnaphthalene	94	J
77-47-4-----	Hexachlorocyclopentadiene	380	U
88-06-2-----	2,4,6-Trichlorophenol	380	U
95-95-4-----	2,4,5-Trichlorophenol	950	U
91-58-7-----	2-Chloronaphthalene	380	U
88-74-4-----	2-Nitroaniline	950	U
131-11-3-----	Dimethylphthalate	380	U
208-96-8-----	Acenaphthylene	380	U
606-20-2-----	2,6-Dinitrotoluene	380	U
99-09-2-----	3-Nitroaniline	950	U
83-32-9-----	Acenaphthene	380	U

FORM I SV-1

CP
9-1-99 OLM03.0

1156

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW579

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950020

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050020A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 13 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

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

51-28-5-----	2,4-Dinitrophenol	950	U
100-02-7-----	4-Nitrophenol	950	U
132-64-9-----	Dibenzofuran	380	U
121-14-2-----	2,4-Dinitrotoluene	380	U
84-66-2-----	Diethylphthalate	380	U
7005-72-3-----	4-Chlorophenyl-phenylether	380	U
86-73-7-----	Fluorene	380	U
100-01-6-----	4-Nitroaniline	950	U
534-52-1-----	4,6-Dinitro-2-methylphenol	950	U
86-30-6-----	N-nitrosodiphenylamine (1)	380	U
101-55-3-----	4-Bromophenyl-phenylether	380	U
118-74-1-----	Hexachlorobenzene	380	U
87-86-5-----	Pentachlorophenol	950	U
85-01-8-----	Phenanthrene	92	J
120-12-7-----	Anthracene	380	U
86-74-8-----	Carbazole	380	U
84-74-2-----	Di-n-butylphthalate	380	U
206-44-0-----	Fluoranthene	120	J
129-00-0-----	Pyrene	120	J
85-68-7-----	Butylbenzylphthalate	380	U
91-94-1-----	3,3'-Dichlorobenzidine	380	U
56-55-3-----	Benzo(a)anthracene	50	J
218-01-9-----	Chrysene	71	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	300	J
117-84-0-----	Di-n-octylphthalate	380	U
205-99-2-----	Benzo(b)fluoranthene	52	J
207-08-9-----	Benzo(k)fluoranthene	380	U
50-32-8-----	Benzo(a)pyrene	380	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	380	U
53-70-3-----	Dibenzo(a,h)anthracene	380	U
191-24-2-----	Benzo(g,h,i)perylene	380	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1157

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW579

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950020

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050020A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 13 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.7

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

Number TICs found: 21

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.67	640	J ^N
2.	UNKNOWN	15.64	380	J
3.	UNKNOWN	16.27	1200	J
4.	UNKNOWN	17.22	710	J
5.	UNKNOWN	21.06	720	J
6.	UNKNOWN	21.55	770	J
7.	UNKNOWN	21.60	550	J
8.	UNKNOWN	21.67	750	J
9.	UNKNOWN	21.83	1100	J
10.	UNKNOWN	22.30	610	J
11.	UNKNOWN	24.25	1400	J
12.	UNKNOWN	24.83	860	J
13.	UNKNOWN	25.07	750	J
14.	UNKNOWN	25.28	730	J
15.	UNKNOWN	25.42	1100	J
16.	UNKNOWN	25.88	570	J
17.	UNKNOWN	26.12	600	J
18.	UNKNOWN	26.26	760	J
19.	UNKNOWN	26.77	540	J
20.	UNKNOWN	26.91	420	J
21.	UNKNOWN	28.25	1000	J [✓]
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CPG-1-99
OLM03.0

1158

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW580

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950021

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050021A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 6 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

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

108-95-2-----	Phenol	350	U
111-44-4-----	bis(2-Chloroethyl) ether	350	U
95-57-8-----	2-Chlorophenol	350	U
541-73-1-----	1,3-Dichlorobenzene	350	U
106-46-7-----	1,4-Dichlorobenzene	350	U
95-50-1-----	1,2-Dichlorobenzene	350	U
95-48-7-----	2-Methylphenol	350	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5-----	4-Methylphenol	350	U
621-64-7-----	N-Nitroso-di-n-propylamine	350	U
67-72-1-----	Hexachloroethane	350	U
98-95-3-----	Nitrobenzene	350	U
78-59-1-----	Isophorone	350	U
88-75-5-----	2-Nitrophenol	350	U
105-67-9-----	2,4-Dimethylphenol	350	U
111-91-1-----	bis(2-Chloroethoxy) methane	350	U
120-83-2-----	2,4-Dichlorophenol	350	U
120-82-1-----	1,2,4-Trichlorobenzene	350	U
91-20-3-----	Naphthalene	350	U
106-47-8-----	4-Chloroaniline	350	U
87-68-3-----	Hexachlorobutadiene	350	U
59-50-7-----	4-Chloro-3-methylphenol	350	U
91-57-6-----	2-Methylnaphthalene	350	U
77-47-4-----	Hexachlorocyclopentadiene	350	U
88-06-2-----	2,4,6-Trichlorophenol	350	U
95-95-4-----	2,4,5-Trichlorophenol	880	U
91-58-7-----	2-Chloronaphthalene	350	U
88-74-4-----	2-Nitroaniline	880	U
131-11-3-----	Dimethylphthalate	350	U
208-96-8-----	Acenaphthylene	350	U
606-20-2-----	2,6-Dinitrotoluene	350	U
99-09-2-----	3-Nitroaniline	880	U
83-32-9-----	Acenaphthene	350	U

FORM I SV-1

OLM03.0

1212

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW580

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950021

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050021A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 6 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.

COMPOUND

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

Q

51-28-5-----	2,4-Dinitrophenol	880	U
100-02-7-----	4-Nitrophenol	880	U
132-64-9-----	Dibenzofuran	350	U
121-14-2-----	2,4-Dinitrotoluene	350	U
84-66-2-----	Diethylphthalate	350	U
7005-72-3-----	4-Chlorophenyl-phenylether	350	U
86-73-7-----	Fluorene	350	U
100-01-6-----	4-Nitroaniline	880	U
534-52-1-----	4,6-Dinitro-2-methylphenol	880	U
86-30-6-----	N-nitrosodiphenylamine (1)	350	U
101-55-3-----	4-Bromophenyl-phenylether	350	U
118-74-1-----	Hexachlorobenzene	350	U
87-86-5-----	Pentachlorophenol	880	U
85-01-8-----	Phenanthrene	350	U
120-12-7-----	Anthracene	350	U
86-74-8-----	Carbazole	350	U
84-74-2-----	Di-n-butylphthalate	350	U
206-44-0-----	Fluoranthene	350	U
129-00-0-----	Pyrene	350	U
85-68-7-----	Butylbenzylphthalate	350	U
91-94-1-----	3,3'-Dichlorobenzidine	350	U
56-55-3-----	Benzo (a) anthracene	350	U
218-01-9-----	Chrysene	350	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	230	J
117-84-0-----	Di-n-octylphthalate	350	U
205-99-2-----	Benzo (b) fluoranthene	350	U
207-08-9-----	Benzo (k) fluoranthene	350	U
50-32-8-----	Benzo (a) pyrene	350	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	350	U
53-70-3-----	Dibenzo (a,h) anthracene	350	U
191-24-2-----	Benzo (g,h,i) perylene	350	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP 9-1-99

OLM03.0

1213

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW580

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950021

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050021A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 6 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.2

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

Number TICs found: 31

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN CARBOXYLIC ACID	14.90	140	JN
2.	UNKNOWN PHTHALATE	15.04	100	JN
3.	UNKNOWN (BC)	18.18	120	JB R
4.	UNKNOWN	20.48	94	JN
5.	UNKNOWN	21.02	96	J
6.	UNKNOWN	21.09	230	J
7.	UNKNOWN	21.23	150	J
8.	UNKNOWN	21.34	260	J
9.	UNKNOWN	21.44	180	J
10.	UNKNOWN	21.62	240	J
11.	UNKNOWN	21.70	200	J
12.	UNKNOWN	21.77	220	J
13.	UNKNOWN	21.88	420	J
14.	UNKNOWN	22.11	210	J
15.	UNKNOWN	22.32	210	J
16.	UNKNOWN	22.41	140	J
17.	UNKNOWN	22.48	340	J
18.	UNKNOWN	22.95	150	J
19.	UNKNOWN	23.02	87	J
20.	UNKNOWN	23.14	120	J
21.	UNKNOWN	23.32	190	J
22.	UNKNOWN	23.51	95	J
23.	UNKNOWN	23.60	91	J
24.	UNKNOWN	24.28	100	J
25.	UNKNOWN	24.77	290	J
26.	UNKNOWN	26.07	130	J
27.	UNKNOWN	26.21	410	J
28.	UNKNOWN	28.68	81	J
29.	UNKNOWN	28.86	520	J
30.	UNKNOWN	30.00	93	JV

FORM I SV-TIC

CP 9-1-99
OLM03.0

1214

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW580

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950021

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050021A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 6 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.2

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

Number TICs found: 31

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	UNKNOWN	30.54	170	JM
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 5-1-99
OLM03.0

1215

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP411

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950008

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 18 decanted: (Y/N) N

Date Received: 07/09/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	2.1	0.66	JPBU
319-85-7	beta-BHC	2.1	U	
319-86-8	delta-BHC	2.1	U	
58-89-9	gamma-BHC (Lindane)	2.1	0.50	JPBU
76-44-8	Heptachlor	2.1	U	
309-00-2	Aldrin	2.1	1.0	JPBU
1024-57-3	Heptachlor epoxide	2.1	U	
959-98-8	Endosulfan I	2.1	U	
60-57-1	Dieldrin	4.2	U	
72-55-9	4,4'-DDE	36	U	
72-20-8	Endrin	4.0	U	
33213-65-9	Endosulfan II	4.0	U	
72-54-8	4,4'-DDD	46	U	
1031-07-8	Endosulfan sulfate	4.0	1.3	JPBU
50-29-3	4,4'-DDT	4.1	U	DNJ
72-43-5	Methoxychlor	21	U	
53494-70-5	Endrin ketone	4.0	U	
7421-93-4	Endrin aldehyde	4.0	0.10	JPBU
5103-71-9	alpha-Chlordane	3.4	U	U
5103-74-2	gamma-Chlordane	4.6	U	
8001-35-2	Toxaphene	210	U	
12674-11-2	Aroclor-1016	40	U	
11104-28-2	Aroclor-1221	82	U	
11141-16-5	Aroclor-1232	40	U	
53469-21-9	Aroclor-1242	150	U	U
12672-29-6	Aroclor-1248	40	U	
11097-69-1	Aroclor-1254	40	U	
11096-82-5	Aroclor-1260	40	U	

CP
9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP412

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950017

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 5 decanted: (Y/N) N

Date Received: 07/09/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.8

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

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

Q

319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	18	U
72-20-8	Endrin	5.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	11	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	7.4	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	0.65	J
7421-93-4	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

CP
9-2-99

FORM I PEST

OLM03.0

1594

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP413

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950018

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 15 decanted: (Y/N) N

Date Received: 07/09/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000(uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0 0.28	JPB 4
319-86-8	delta-BHC	2.0 0.12	JP 4
58-89-9	gamma-BHC (Lindane)	2.0 0.13	JP 4
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.0	U
1024-57-3	Heptachlor epoxide	2.0 0.11	JPB 4
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	3.9 0.58	JPB 4
72-55-9	4,4'-DDE	3.9 0.82	JPB 4
72-20-8	Endrin	0.80	J
33213-65-9	Endosulfan II	3.9	U
72-54-8	4,4'-DDD	3.9 0.90	JPB 4
1031-07-8	Endosulfan sulfate	3.9	U
50-29-3	4,4'-DDT	2.1	JPB
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3.9	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	39	U
11104-28-2	Aroclor-1221	79	U
11141-16-5	Aroclor-1232	39	U
53469-21-9	Aroclor-1242	39	U
12672-29-6	Aroclor-1248	39	U
11097-69-1	Aroclor-1254	39	U
11096-82-5	Aroclor-1260	39	U

CP 9-2-99
9-3-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP415

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950228

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 24 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

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

Q

319-84-6-----	alpha-BHC	2.2	U
319-85-7-----	beta-BHC	2.2 0.33	JP4
319-86-8-----	delta-BHC	2.2	U
58-89-9-----	gamma-BHC (Lindane)	2.2 0.64	JP4
76-44-8-----	Heptachlor	2.2	U
309-00-2-----	Aldrin	2.2	U
1024-57-3-----	Heptachlor epoxide	2.2 0.27	JP4
959-98-8-----	Endosulfan I	19	
60-57-1-----	Dieldrin	42	PJ
72-55-9-----	4,4'-DDE	860	EPC J
72-20-8-----	Endrin	4.3 1.3	JP4
33213-65-9-----	Endosulfan II	4.3	U
72-54-8-----	4,4'-DDD	13	PU
1031-07-8-----	Endosulfan sulfate	400	EPC J
50-29-3-----	4,4'-DDT	840	EPC J
72-43-5-----	Methoxychlor	22 5.7	JP4
53494-70-5-----	Endrin ketone	4.3	U
7421-93-4-----	Endrin aldehyde	4.3	U
5103-71-9-----	alpha-Chlordane	2.2	U
5103-74-2-----	gamma-Chlordane	2.2 0.36	JP4
8001-35-2-----	Toxaphene	220	U
12674-11-2-----	Aroclor-1016	43	U
11104-28-2-----	Aroclor-1221	88	U
11141-16-5-----	Aroclor-1232	43	U
53469-21-9-----	Aroclor-1242	43	U
12672-29-6-----	Aroclor-1248	43	U
11097-69-1-----	Aroclor-1254	43	U
11096-82-5-----	Aroclor-1260	43	U

CP9-2-99
93

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP415DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950228

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 24 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 50.0

GPC Cleanup: (Y/N) Y pH: 6.3

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	110	U
319-85-7	beta-BHC	110	U
319-86-8	delta-BHC	110	U
58-89-9	gamma-BHC (Lindane)	110	U
76-44-8	Heptachlor	110	U
309-00-2	Aldrin	110	U
1024-57-3	Heptachlor epoxide	110	U
959-98-8	Endosulfan I	30	DJ
60-57-1	Dieldrin	44	DJ
72-55-9	4,4'-DDE	2200	DE
72-20-8	Endrin	220	U
33213-65-9	Endosulfan II	220	U
72-54-8	4,4'-DDD	14	DJFU
1031-07-8	Endosulfan sulfate	610	DE
50-29-3	4,4'-DDT	1500	DE
72-43-5	Methoxychlor	1100	U
53494-70-5	Endrin ketone	220	U
7421-93-4	Endrin aldehyde	220	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	11000	U
12674-11-2	Aroclor-1016	2200	U
11104-28-2	Aroclor-1221	4400	U
11141-16-5	Aroclor-1232	2200	U
53469-21-9	Aroclor-1242	2200	U
12672-29-6	Aroclor-1248	2200	U
11097-69-1	Aroclor-1254	2200	U
11096-82-5	Aroclor-1260	2200	U

CP 9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP416

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950229

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

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

Q

319-84-6-----	alpha-BHC	1.8	U
319-85-7-----	beta-BHC	1.8	U
319-86-8-----	delta-BHC	1.8	U
58-89-9-----	gamma-BHC (Lindane)	1.8	U
76-44-8-----	Heptachlor	1.8	U
309-00-2-----	Aldrin	1.8	U
1024-57-3-----	Heptachlor epoxide	1.8	U
959-98-8-----	Endosulfan I	1.8	U
60-57-1-----	Dieldrin	3.5	U
72-55-9-----	4,4'-DDE	28	U
72-20-8-----	Endrin	3.5	U
33213-65-9-----	Endosulfan II	3.5	U
72-54-8-----	4,4'-DDD	14	U
1031-07-8-----	Endosulfan sulfate	3.5	U
50-29-3-----	4,4'-DDT	3.5	U
72-43-5-----	Methoxychlor	1.8	U
53494-70-5-----	Endrin ketone	3.5	U
7421-93-4-----	Endrin aldehyde	3.5	U
5103-71-9-----	alpha-Chlordane	1.8	U
5103-74-2-----	gamma-Chlordane	1.8	U
8001-35-2-----	Toxaphene	180	U
12674-11-2-----	Aroclor-1016	35	U
11104-28-2-----	Aroclor-1221	72	U
11141-16-5-----	Aroclor-1232	35	U
53469-21-9-----	Aroclor-1242	35	U
12672-29-6-----	Aroclor-1248	35	U
11097-69-1-----	Aroclor-1254	35	U
11096-82-5-----	Aroclor-1260	35	U

CP 9-2-99
9-3-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP417

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950230

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 34 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	2.6	U
319-85-7-----	beta-BHC	2.6	U
319-86-8-----	delta-BHC	2.6	U
58-89-9-----	gamma-BHC (Lindane)	2.6	U
76-44-8-----	Heptachlor	2.6	U
309-00-2-----	Aldrin	2.6	U
1024-57-3-----	Heptachlor epoxide	2.6	U
959-98-8-----	Endosulfan I	2.6	U
60-57-1-----	Dieldrin	5.0	U
72-55-9-----	4,4'-DDE	2.2	J
72-20-8-----	Endrin	5.0	U
33213-65-9-----	Endosulfan II	5.0	U
72-54-8-----	4,4'-DDD	5.0	U
1031-07-8-----	Endosulfan sulfate	5.0	U
50-29-3-----	4,4'-DDT	5.0	U
72-43-5-----	Methoxychlor	26	U
53494-70-5-----	Endrin ketone	5.0	U
7421-93-4-----	Endrin aldehyde	5.0	U
5103-71-9-----	alpha-Chlordane	2.6	U
5103-74-2-----	gamma-Chlordane	2.6	U
8001-35-2-----	Toxaphene	260	U
12674-11-2-----	Aroclor-1016	50	U
11104-28-2-----	Aroclor-1221	100	U
11141-16-5-----	Aroclor-1232	50	U
53469-21-9-----	Aroclor-1242	50	U
12672-29-6-----	Aroclor-1248	50	U
11097-69-1-----	Aroclor-1254	50	U
11096-82-5-----	Aroclor-1260	50	U

CP 9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW542

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949679

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/03/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/08/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.0

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	JP U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8 0.26	JP U
76-44-8	Heptachlor	1.8 0.13	JP U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8 0.066	JP U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	75	EP J
72-20-8	Endrin	3.5 0.44	JP U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	200	EP J
1031-07-8	Endosulfan sulfate	3.5 1.1	JP U
50-29-3	4,4'-DDT	3.9	EP JN
72-43-5	Methoxychlor	18 1.4	JPBU
53494-70-5	Endrin ketone	3.5	U
7421-93-4	Endrin aldehyde	3.5 1.4	JP U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8 1.6	JP U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	72	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

CP 9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW542DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949679

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/03/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/08/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

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

Sulfur Cleanup: (Y/N) N

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

CAS NO.

COMPOUND

Q

319-84-6	alpha-BHC	9.1	U
319-85-7	beta-BHC	9.1	U
319-86-8	delta-BHC	9.1	U
58-89-9	gamma-BHC (Lindane)	9.1	0.49 DJPB4
76-44-8	Heptachlor	9.1	U
309-00-2	Aldrin	9.1	U
1024-57-3	Heptachlor epoxide	9.1	U
959-98-8	Endosulfan I	9.1	U
60-57-1	Dieldrin	18	U
72-55-9	4,4'-DDE	73	DE
72-20-8	Endrin	18	0.85 DJPB4
33213-65-9	Endosulfan II	18	U
72-54-8	4,4'-DDD	210	U
1031-07-8	Endosulfan sulfate	18	U
50-29-3	4,4'-DDT	3.7	18 3.7 DJPB4 J
72-43-5	Methoxychlor	9.1	1.6 DJPB4
53494-70-5	Endrin ketone	18	U
7421-93-4	Endrin aldehyde	18	U
5103-71-9	alpha-Chlordane	9.1	U
5103-74-2	gamma-Chlordane	9.1	1.9 DJPB4
8001-35-2	Toxaphene	910	U
12674-11-2	Aroclor-1016	180	U
11104-28-2	Aroclor-1221	360	U
11141-16-5	Aroclor-1232	180	U
53469-21-9	Aroclor-1242	180	U
12672-29-6	Aroclor-1248	180	U
11097-69-1	Aroclor-1254	180	U
11096-82-5	Aroclor-1260	180	U

CP 9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW545

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949690

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/03/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/08/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	3.4	JPJN
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8 0.91	JP U
76-44-8	Heptachlor	1.8 0.27	JP U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8 0.12	JP U
959-98-8	Endosulfan I	1.8 0.17	JP U
60-57-1	Dieldrin	3.5 0.67	JP U
72-55-9	4,4'-DDE	19	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	51	U
1031-07-8	Endosulfan sulfate	3.5 1.8	JP U
50-29-3	4,4'-DDT	7.7	U
72-43-5	Methoxychlor	18 8.1	JPB U
53494-70-5	Endrin ketone	3.5 1.8	JP U
7421-93-4	Endrin aldehyde	3.5 3.3	JP U
5103-71-9	alpha-Chlordane	1.8 0.47	JP U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	72	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

CP 9-2-99
JP

FORM I PEST

OLM03.0

1667

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW546

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949691

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 20 decanted: (Y/N) N

Date Received: 07/03/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/08/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	4.2	
319-85-7	beta-BHC	10	J
319-86-8	delta-BHC	2.1 0.19	JPU
58-89-9	gamma-BHC (Lindane)	2.1	U
76-44-8	Heptachlor	2.1	U
309-00-2	Aldrin	2.1 0.10	JPU
1024-57-3	Heptachlor epoxide	2.1 0.094	JPU
959-98-8	Endosulfan I	2.1	U
60-57-1	Dieldrin	4.1 2. 0.91	JPU
72-55-9	4,4'-DDE	33	X
72-20-8	Endrin	4.1	U
33213-65-9	Endosulfan II	4.1	U
72-54-8	4,4'-DDD	100	J
1031-07-8	Endosulfan sulfate	4.1 0.74	JPU
50-29-3	4,4'-DDT	5.9	DBJN
72-43-5	Methoxychlor	21 42 0.52	JPU
53494-70-5	Endrin ketone	4.1	U
7421-93-4	Endrin aldehyde	4.1	U
5103-71-9	alpha-Chlordane	2.1 42 0.60	JPU
5103-74-2	gamma-Chlordane	2.1 42 1.6	JPU
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	84	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	40	J
11096-82-5	Aroclor-1260	41	U

CP
9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW546DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949691

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 20 decanted: (Y/N) N

Date Received: 07/03/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/29/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 7.2

Sulfur Cleanup: (Y/N) N

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

CAS NO.

COMPOUND

Q

319-84-6-----	alpha-BHC	3.7	DJP
319-85-7-----	beta-BHC	// 2.9	DJP U
319-86-8-----	delta-BHC	// 0.37	DJP 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	// 0.44	DJP U
959-98-8-----	Endosulfan I	11	U
60-57-1-----	Dieldrin	21	U
72-55-9-----	4,4'-DDE	34	DP
72-20-8-----	Endrin	21	U
33213-65-9-----	Endosulfan II	21	U
72-54-8-----	4,4'-DDD	110	U
1031-07-8-----	Endosulfan sulfate	21 0.80	DJP U
50-29-3-----	4,4'-DDT	21	U
72-43-5-----	Methoxychlor	110	U
53494-70-5-----	Endrin ketone	21	U
7421-93-4-----	Endrin aldehyde	21	U
5103-71-9-----	alpha-Chlordane	// 0.68	DJP U
5103-74-2-----	gamma-Chlordane	11	U
8001-35-2-----	Toxaphene	1100	U
12674-11-2-----	Aroclor-1016	210	U
11104-28-2-----	Aroclor-1221	420	U
11141-16-5-----	Aroclor-1232	210	U
53469-21-9-----	Aroclor-1242	210	U
12672-29-6-----	Aroclor-1248	210	U
11097-69-1-----	Aroclor-1254	210 58	DJP U
11096-82-5-----	Aroclor-1260	210	U

CP
9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW564

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949692

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/03/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/08/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	JP U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	JP U
60-57-1	Dieldrin	1.6	JP
72-55-9	4,4'-DDE	52	B
72-20-8	Endrin	3.5	JPBU
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	29	
1031-07-8	Endosulfan sulfate	3.5	JP U
50-29-3	4,4'-DDT	3.5	JPB U
72-43-5	Methoxychlor	18	JPB U
53494-70-5	Endrin ketone	3.5	JP U
7421-93-4	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	2.0	
5103-74-2	gamma-Chlordane	2.6	JP
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	72	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

CP
9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW565

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949693

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 20 decanted: (Y/N) N

Date Received: 07/03/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/08/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	3.3	PJN
319-86-8	delta-BHC	2.1 0.50	JP U
58-89-9	gamma-BHC (Lindane)	2.1 0.49	JP U
76-44-8	Heptachlor	2.1	U
309-00-2	Aldrin	2.1	U
1024-57-3	Heptachlor epoxide	2.1	U
959-98-8	Endosulfan I	2.1 1.3	JP U
60-57-1	Dieldrin	5.8	PJ
72-55-9	4,4'-DDE	24	P
72-20-8	Endrin	4.1	U
33213-65-9	Endosulfan II	4.1	U
72-54-8	4,4'-DDD	94	PJ
1031-07-8	Endosulfan sulfate	4.1 1.3	JP U
50-29-3	4,4'-DDT	7.2	PBJ
72-43-5	Methoxychlor	2.1 2.1	JPB U
53494-70-5	Endrin ketone	4.1	U
7421-93-4	Endrin aldehyde	4.1	U
5103-71-9	alpha-Chlordane	26	PJ
5103-74-2	gamma-Chlordane	28	
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	84	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	J
11096-82-5	Aroclor-1260	41	U

9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW565DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949693

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 20 decanted: (Y/N) N

Date Received: 07/03/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/08/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 7.7

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

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

Q

319-84-6-----	alpha-BHC	11	U
319-85-7-----	beta-BHC	// 3.4	DJP U
319-86-8-----	delta-BHC	// 0.24	DJP U
58-89-9-----	gamma-BHC (Lindane)	// 0.48	DJP 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	// 0.93	DJP U
60-57-1-----	Dieldrin	21 5.1	DJP U
72-55-9-----	4,4'-DDE	24	DB
72-20-8-----	Endrin	21	U
33213-65-9-----	Endosulfan II	21	U
72-54-8-----	4,4'-DDD	100	U
1031-07-8-----	Endosulfan sulfate	21	U
50-29-3-----	4,4'-DDT	7.3	DJP
72-43-5-----	Methoxychlor	110	U
53494-70-5-----	Endrin ketone	21	U
7421-93-4-----	Endrin aldehyde	21	U
5103-71-9-----	alpha-Chlordane	29	DB
5103-74-2-----	gamma-Chlordane	32	DB
8001-35-2-----	Toxaphene	1100	U
12674-11-2-----	Aroclor-1016	210	U
11104-28-2-----	Aroclor-1221	420	U
11141-16-5-----	Aroclor-1232	210	U
53469-21-9-----	Aroclor-1242	210	U
12672-29-6-----	Aroclor-1248	210	U
11097-69-1-----	Aroclor-1254	34	DB
11096-82-5-----	Aroclor-1260	210	U

CP 9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW570

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949967

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 12 decanted: (Y/N) N

Date Received: 07/08/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y

pH: 7.9

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	39	U
319-85-7	beta-BHC	39	U
319-86-8	delta-BHC	39	U
58-89-9	gamma-BHC (Lindane)	39	U
76-44-8	Heptachlor	39	U
309-00-2	Aldrin	39	U
1024-57-3	Heptachlor epoxide	39	U
959-98-8	Endosulfan I	39	U
60-57-1	Dieldrin	75	U
72-55-9	4,4'-DDE	3300	EBE J
72-20-8	Endrin	75	U
33213-65-9	Endosulfan II	75	U
72-54-8	4,4'-DDD	320	B
1031-07-8	Endosulfan sulfate	39	JPB
50-29-3	4,4'-DDT	4000	EBE J
72-43-5	Methoxychlor	390	JPU
53494-70-5	Endrin ketone	75	U
7421-93-4	Endrin aldehyde	75	U
5103-71-9	alpha-Chlordane	39	U
5103-74-2	gamma-Chlordane	39	U
8001-35-2	Toxaphene	3900	U
12674-11-2	Aroclor-1016	750	U
11104-28-2	Aroclor-1221	1500	U
11141-16-5	Aroclor-1232	750	U
53469-21-9	Aroclor-1242	750	U
12672-29-6	Aroclor-1248	750	U
11097-69-1	Aroclor-1254	750	U
11096-82-5	Aroclor-1260	750	U

CP
9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW570DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949967

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 12 decanted: (Y/N) N

Date Received: 07/08/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 100.0

GPC Cleanup: (Y/N) Y pH: 7.9

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

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

Q

319-84-6-----	alpha-BHC	190	U
319-85-7-----	beta-BHC	190	U
319-86-8-----	delta-BHC	190	U
58-89-9-----	gamma-BHC (Lindane)	190	U
76-44-8-----	Heptachlor	190	U
309-00-2-----	Aldrin	190	U
1024-57-3-----	Heptachlor epoxide	190	U
959-98-8-----	Endosulfan I	190	U
60-57-1-----	Dieldrin	380	U
72-55-9-----	4,4'-DDE	4500	DBC
72-20-8-----	Endrin	380	U
33213-65-9-----	Endosulfan II	380	U
72-54-8-----	4,4'-DDD	290	DJB
1031-07-8-----	Endosulfan sulfate	46	DJB
50-29-3-----	4,4'-DDT	5000	DBC
72-43-5-----	Methoxychlor	1900	U
53494-70-5-----	Endrin ketone	380	U
7421-93-4-----	Endrin aldehyde	380	U
5103-71-9-----	alpha-Chlordane	190	U
5103-74-2-----	gamma-Chlordane	190	U
8001-35-2-----	Toxaphene	19000	U
12674-11-2-----	Aroclor-1016	3800	U
11104-28-2-----	Aroclor-1221	7600	U
11141-16-5-----	Aroclor-1232	3800	U
53469-21-9-----	Aroclor-1242	3800	U
12672-29-6-----	Aroclor-1248	3800	U
11097-69-1-----	Aroclor-1254	3800	U
11096-82-5-----	Aroclor-1260	3800	U

CP
8-9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW571

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949968

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 8 decanted: (Y/N) N

Date Received: 07/08/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 8.0

Sulfur Cleanup: (Y/N) N

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

CAS NO.

COMPOUND

Q

319-84-6	alpha-BHC	3.7	U
319-85-7	beta-BHC	3.7	U
319-86-8	delta-BHC	3.7	U
58-89-9	gamma-BHC (Lindane)	3.7	U
76-44-8	Heptachlor	3.7	U
309-00-2	Aldrin	3.7	U
1024-57-3	Heptachlor epoxide	3.7	U
959-98-8	Endosulfan I	3.7	U
60-57-1	Dieldrin	7.2	U
72-55-9	4,4'-DDE	31	U
72-20-8	Endrin	7.2	U
33213-65-9	Endosulfan II	7.2	U
72-54-8	4,4'-DDD	1.6	JB
1031-07-8	Endosulfan sulfate	7.2	JPBU
50-29-3	4,4'-DDT	14	U
72-43-5	Methoxychlor	37	U
53494-70-5	Endrin ketone	7.2	U
7421-93-4	Endrin aldehyde	7.2	U
5103-71-9	alpha-Chlordane	3.7	U
5103-74-2	gamma-Chlordane	3.7	U
8001-35-2	Toxaphene	370	U
12674-11-2	Aroclor-1016	72	U
11104-28-2	Aroclor-1221	140	U
11141-16-5	Aroclor-1232	72	U
53469-21-9	Aroclor-1242	72	U
12672-29-6	Aroclor-1248	72	U
11097-69-1	Aroclor-1254	72	U
11096-82-5	Aroclor-1260	72	U

CP
9-2-97

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW572

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949969

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 14 decanted: (Y/N) N

Date Received: 07/08/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 7.4

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	20	U
319-85-7-----	beta-BHC	20	U
319-86-8-----	delta-BHC	20	U
58-89-9-----	gamma-BHC (Lindane)	20	U
76-44-8-----	Heptachlor	20	U
309-00-2-----	Aldrin	20	U
1024-57-3-----	Heptachlor epoxide	20	U
959-98-8-----	Endosulfan I	20	U
60-57-1-----	Dieldrin	38	U
72-55-9-----	4,4'-DDE	1200	EDCJ
72-20-8-----	Endrin	38	U
33213-65-9-----	Endosulfan II	38	U
72-54-8-----	4,4'-DDD	120	B
1031-07-8-----	Endosulfan sulfate	20	JB
50-29-3-----	4,4'-DDT	800	EDCJ
72-43-5-----	Methoxychlor	200	U
53494-70-5-----	Endrin ketone	38	U
7421-93-4-----	Endrin aldehyde	38	U
5103-71-9-----	alpha-Chlordane	20	U
5103-74-2-----	gamma-Chlordane	20	U
8001-35-2-----	Toxaphene	2000	U
12674-11-2-----	Aroclor-1016	380	U
11104-28-2-----	Aroclor-1221	780	U
11141-16-5-----	Aroclor-1232	380	U
53469-21-9-----	Aroclor-1242	380	U
12672-29-6-----	Aroclor-1248	380	U
11097-69-1-----	Aroclor-1254	380	U
11096-82-5-----	Aroclor-1260	380	U

20 0.19 JPB U

CP
6-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW572DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949969

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 14 decanted: (Y/N) N

Date Received: 07/08/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/13/99

Injection Volume: 2.0 (uL)

Dilution Factor: 50.0

GPC Cleanup: (Y/N) Y pH: 7.4

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	99	U
319-85-7	beta-BHC	99	U
319-86-8	delta-BHC	99	U
58-89-9	gamma-BHC (Lindane)	99	U
76-44-8	Heptachlor	99	U
309-00-2	Aldrin	99	U
1024-57-3	Heptachlor epoxide	99	U
959-98-8	Endosulfan I	99	U
60-57-1	Dieldrin	190	U
72-55-9	4,4'-DDE	1600	DBE
72-20-8	Endrin	190	U
33213-65-9	Endosulfan II	190	U
72-54-8	4,4'-DDD	120	DJB
1031-07-8	Endosulfan sulfate	17	DJPP
50-29-3	4,4'-DDT	850	DBE
72-43-5	Methoxychlor	990	U
53494-70-5	Endrin ketone	190	U
7421-93-4	Endrin aldehyde	190	U
5103-71-9	alpha-Chlordane	99	U
5103-74-2	gamma-Chlordane	99	U
8001-35-2	Toxaphene	9900	U
12674-11-2	Aroclor-1016	1900	U
11104-28-2	Aroclor-1221	3900	U
11141-16-5	Aroclor-1232	1900	U
53469-21-9	Aroclor-1242	1900	U
12672-29-6	Aroclor-1248	1900	U
11097-69-1	Aroclor-1254	1900	U
11096-82-5	Aroclor-1260	1900	U

CP 9.2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW573

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949970

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 8 decanted: (Y/N) N

Date Received: 07/08/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

Sulfur Cleanup: (Y/N) N

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

CAS NO.

COMPOUND

Q

319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.6	U
72-55-9	4,4'-DDE	3.6	U
72-20-8	Endrin	3.6	U
33213-65-9	Endosulfan II	3.6	U
72-54-8	4,4'-DDD	2.5	U
1031-07-8	Endosulfan sulfate	3.6	U
50-29-3	4,4'-DDT	19	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.6	U
7421-93-4	Endrin aldehyde	3.6	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	73	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U

CP 9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW574

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949971

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/08/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.4

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	31	B
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	5.6	B
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	19	B
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421-93-4	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	72	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

CP 9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW575

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 949972

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 4 decanted: (Y/N) N

Date Received: 07/08/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Sulfur Cleanup: (Y/N) N

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

CAS NO.

COMPOUND

Q

319-84-6-----	alpha-BHC	1.8	U
319-85-7-----	beta-BHC	1.8	U
319-86-8-----	delta-BHC	1.8	U
58-89-9-----	gamma-BHC (Lindane)	1.8	U
76-44-8-----	Heptachlor	1.8	U
309-00-2-----	Aldrin	1.8	U
1024-57-3-----	Heptachlor epoxide	1.8	U
959-98-8-----	Endosulfan I	1.8	U
60-57-1-----	Dieldrin	1.8	U
72-55-9-----	4,4'-DDE	1.8	U
72-20-8-----	Endrin	1.8	U
33213-65-9-----	Endosulfan II	1.8	U
72-54-8-----	4,4'-DDD	1.8	U
1031-07-8-----	Endosulfan sulfate	1.8	U
50-29-3-----	4,4'-DDT	1.8	U
72-43-5-----	Methoxychlor	1.8	U
53494-70-5-----	Endrin ketone	1.8	U
7421-93-4-----	Endrin aldehyde	1.8	U
5103-71-9-----	alpha-Chlordane	1.8	U
5103-74-2-----	gamma-Chlordane	1.8	U
8001-35-2-----	Toxaphene	180	U
12674-11-2-----	Aroclor-1016	34	U
11104-28-2-----	Aroclor-1221	70	U
11141-16-5-----	Aroclor-1232	34	U
53469-21-9-----	Aroclor-1242	34	U
12672-29-6-----	Aroclor-1248	34	U
11097-69-1-----	Aroclor-1254	34	U
11096-82-5-----	Aroclor-1260	34	U

CP 9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW578

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950019

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/09/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	1.8	U
319-85-7-----	beta-BHC	1.9	DBU
319-86-8-----	delta-BHC	1.8	U
58-89-9-----	gamma-BHC (Lindane)	1.8	U
76-44-8-----	Heptachlor	1.8	U
309-00-2-----	Aldrin	1.8	U
1024-57-3-----	Heptachlor epoxide	1.8 1.2	JPBU
959-98-8-----	Endosulfan I	1.8 0.018	JPBU
60-57-1-----	Dieldrin	1.8	U
72-55-9-----	4,4'-DDE	2.7	JPB
72-20-8-----	Endrin	17	U
33213-65-9-----	Endosulfan II	3.5	U
72-54-8-----	4,4'-DDD	3.5	U
1031-07-8-----	Endosulfan sulfate	37	U
50-29-3-----	4,4'-DDT	3.5 0.77	JPBU
72-43-5-----	Methoxychlor	3.5 1.9	JPBU
53494-70-5-----	Endrin ketone	18 1.9	JPBU
7421-93-4-----	Endrin aldehyde	3.5 0.29	JPBU
5103-71-9-----	alpha-Chlordane	3.5 0.25	JPBU
5103-74-2-----	gamma-Chlordane	5.5	PJ
8001-35-2-----	Toxaphene	6.2	DBJ
12674-11-2-----	Aroclor-1016	180	U
11104-28-2-----	Aroclor-1221	35	U
11141-16-5-----	Aroclor-1232	72	U
53469-21-9-----	Aroclor-1242	35	U
12672-29-6-----	Aroclor-1248	35	U
11097-69-1-----	Aroclor-1254	35	U
11096-82-5-----	Aroclor-1260	35	U

CP 4-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW579

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950020

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 13 decanted: (Y/N) N

Date Received: 07/09/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.7

Sulfur Cleanup: (Y/N) N

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

CAS NO.

COMPOUND

Q

319-84-6-----	alpha-BHC	2.0	0.81	JPBU
319-85-7-----	beta-BHC		4.1	DBJ
319-86-8-----	delta-BHC		2.0	U
58-89-9-----	gamma-BHC (Lindane)	2.0	0.58	JPBU
76-44-8-----	Heptachlor		2.0	U
309-00-2-----	Aldrin	2.0	1.1	JPBU
1024-57-3-----	Heptachlor epoxide	2.0	0.13	JPBU
959-98-8-----	Endosulfan I		2.0	U
60-57-1-----	Dieldrin		1.1	JPB
72-55-9-----	4,4'-DDE		17	B
72-20-8-----	Endrin		3.8	U
33213-65-9-----	Endosulfan II		3.8	U
72-54-8-----	4,4'-DDD		31	B
1031-07-8-----	Endosulfan sulfate	3.8	0.78	JPBU
50-29-3-----	4,4'-DDT		2.1	JPB
72-43-5-----	Methoxychlor		20	U
53494-70-5-----	Endrin ketone	3.8	0.26	JPBU
7421-93-4-----	Endrin aldehyde		3.8	U
5103-71-9-----	alpha-Chlordane	2.0	1.6	JPBU
5103-74-2-----	gamma-Chlordane		2.6	B
8001-35-2-----	Toxaphene		200	U
12674-11-2-----	Aroclor-1016		38	U
11104-28-2-----	Aroclor-1221		77	U
11141-16-5-----	Aroclor-1232		38	U
53469-21-9-----	Aroclor-1242		38	U
12672-29-6-----	Aroclor-1248		38	U
11097-69-1-----	Aroclor-1254		38	U
11096-82-5-----	Aroclor-1260		38	U

CP 9-2-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW580

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW542

Matrix: (soil/water) SOIL

Lab Sample ID: 950021

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 6 decanted: (Y/N) N

Date Received: 07/09/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.2

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	1.8	U
319-85-7-----	beta-BHC	1.8 0.65	JPB U
319-86-8-----	delta-BHC	1.8 0.089	JP U
58-89-9-----	gamma-BHC (Lindane)	1.8 0.39	JP U
76-44-8-----	Heptachlor	1.8	U
309-00-2-----	Aldrin	1.8	U
1024-57-3-----	Heptachlor epoxide	1.8	U
959-98-8-----	Endosulfan I	1.8	U
60-57-1-----	Dieldrin	3.5 1.8 0.30	JPB U
72-55-9-----	4,4'-DDE	2.6	JPB
72-20-8-----	Endrin	0.95	J
33213-65-9-----	Endosulfan II	3.5	U
72-54-8-----	4,4'-DDD	3.5 1.1	JPB U
1031-07-8-----	Endosulfan sulfate	3.5 0.30	JPB U
50-29-3-----	4,4'-DDT	3.0	JPB
72-43-5-----	Methoxychlor	18	U
53494-70-5-----	Endrin ketone	3.5 0.31	JPB U
7421-93-4-----	Endrin aldehyde	3.5 0.46	JPB U
5103-71-9-----	alpha-Chlordane	1.8	U
5103-74-2-----	gamma-Chlordane	1.8 0.18	JPB U
8001-35-2-----	Toxaphene	180	U
12674-11-2-----	Aroclor-1016	35	U
11104-28-2-----	Aroclor-1221	71	U
11141-16-5-----	Aroclor-1232	35	U
53469-21-9-----	Aroclor-1242	35	U
12672-29-6-----	Aroclor-1248	35	U
11097-69-1-----	Aroclor-1254	35	U
11096-82-5-----	Aroclor-1260	35	U

9-2-99
CP



International Specialists in the Environment

1500 First Interstate Center, 999 Third Avenue
Seattle, Washington 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: September 19, 1999

TO: Mark Woodke, Project Manager, E & E, Seattle, WA

FROM: Alasdair Turner, START-Chemist, E & E, Seattle, WA

SUBJ: Inorganic Data Quality Assurance Summary Review, Wenatchee Brownfields Site, Wenatchee, Washington.

REF: TDD: 98-11-0007 PAN: CK0701SIDM

The data quality assurance summary review of 20 water samples collected from the Wenatchee Brownfields Site in Wenatchee, Washington has been completed. Analysis for VOCs, SVOC, and Pest/PCBs (EPA CLP SOW for organic analysis OLM03.2) has been completed, and was performed by COMPUCEM, of Cary, NC.

No discrepancies were noted.

ENVIRONMENTAL SERVICES ASSISTANCE TEAMS - WESTERN ZONE

LOCKHEED MARTIN
TECHNOLOGY SERVICES GROUP

ESAT Region 10
Lockheed Martin
7411 Beach Drive East
Port Orchard, WA 98366
Phone (360) 871-8723

DELIVERABLE NARRATIVE

DATE: August 30, 1999

TO: Ginna Grepo-Grove, WAM, USEPA, Region 10

THROUGH: Dave Dobb, Team Manager, ESAT Region 10 *DD*

FROM: Chris Pace, Task Lead, ESAT Region 10 *CP*

SUBJECT: Data validation report for the volatile organic (VOA), semi-volatile organic (SVOA) and pesticide/polychlorinated biphenyl (Pest/PCB) analysis of samples from the Wenatchee Brownfields Site. Case: 27165 SDG: JW513

DOC: ESW10-3-1377

PWO: ESW72019

TDF: 3638

WA: 10-99-3-10

CC: Gerald Dodo, RPO, USEPA, Region 10
Project File

The quality assurance (QA) review of 20 water samples collected from the above referenced site has been completed. These samples were analyzed for VOA (18), SVOA (11) and Pest/PCB (11) in accordance with the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analyses (OLM03.2) by COMPUCEM of Cary, NC.

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the USEPA CLP SOW for Organic Analysis (OLM03.2), the USEPA CLP National Functional Guidelines for Organic Data Review (2/94) and the Region 10 Guidelines for CLP Data Review.

The conclusions presented herein are based on the information provided for the review.

Holding Time

All samples were preserved with ice and VOA samples (except JW522) were acidified to a pH of < 2 prior to shipment. All of the samples met the method and technical (40 CFR 136) required holding times for all analyses with the following exceptions:

SVOA samples JP430 (17 days) and JP431RE (13 days) exceeded the extraction holding time criteria of 7 days. Sample data were qualified as estimated, "J/UJ". Sample JP431RE was further qualified on the basis of low internal standard area.

VOA sample JW522 was received at a pH of 6 and was extracted 13 days from the sample collection date. Aromatic target analytes were qualified as estimated, "J/UJ".

The Holding Times Summary listing the pertinent collection, extraction, and analysis dates is attached at the end of this validation report.

Instrument Performance - Acceptable

All of the GC and GC/MS systems met the SOW specified technical acceptance criteria prior to sample analyses, i.e., GC/MS performance checks, GC performance checks, retention times, response factors, and calibrations. The systems remained stable throughout the course of analyses. Instrument blanks were all clean and there were no indications of carry-over.

Initial Calibrations

Three VOA, five SVOA and one Pest/PCB initial calibrations were performed. The initial calibrations met the SOW technical acceptance criteria with the following exceptions:

- SVOA Initial Calibration on 7/26/99, instrument 66 - the %RSD for 3,3'-dichlorobenzidine was 45.5. The lowest calibration level was non-linear. Associated samples were qualified as estimated, "J/UJ", in the non-linear portion of the calibration curve.

Continuing Calibration Verification (CCVs) Standards

All of the CCVs met the criteria for frequency of analysis, the minimum response factor, the retention time and the percent differences (%Ds) criteria with the following exceptions:

- The %Ds for the following VOA compounds exceeded the QC limits and the associated results were qualified accordingly:

Date /Time of Analysis	Inst. i.d.	Compound	%D	Qualifier Detect/Non-detect
7/18/99 (08:22)	54	acetone	29.5	J/none

- The %Ds for the following SVOA compounds exceeded the QC limits and the associated results were qualified accordingly:

Date /Time of Analysis	Inst. i.d.	Compound	%D	Qualifier Detect/Non-detect
7/16/99 (11:39)	66	2,2'-oxybis(1-chloropropane)	-30.7	J/UJ
		hexachlorobutadiene	27.4	J/none
		4-bromophenyl-phenylether	28.2	J/none
		hexachlorobenzene	34.7	J/none
		pentachlorophenol	-30.9	J/UJ
		terphenyl-d14 (surr.)	28.0	none
		2,4,6-tribromophenol (surr.)	43.8	none
7/20/99 (09:30)	66	2,4-dinitrophenol	-25.2	none
7/27/99 (09:30)	66	2,2'-oxybis(1-chloropropane)	35.8	J/none
		carbazole	32.8	J/none
		3,3'-dichlorobenzidine	-25.2	none
		di-n-octylphthalate	-25.3	none
7/29/99 (21:51)	70	4-chloroaniline	47.0	J/none

Compound Quantitation and Detection Limits

All of the samples were analyzed at the contract required quantitation limits (CRQLs) with the following exceptions:

VOA sample JW527 was analyzed at a 10X dilution due to high levels of methylene chloride.

Target compounds that were detected at concentrations less than the CRQLs were qualified as estimated, "J". Detected compounds at concentrations over the calibration range were qualified as estimated, "J". Data users should consider these estimated compounds as the minimum amount present in the samples. It is also recommended that for these compounds, data users should utilize the concentrations reported from the dilution runs. All of the reported results were adjusted for sample amounts analyzed.

Blanks

Acetone was detected below the CRQL in the VOA blanks VBLKCU and VBLKSA. Acetone detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

Methylene chloride was detected below the CRQL in the VOA blank VHBLKE2. Methylene chloride detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

4-Methyl-2-pentanone was detected below the CRQL in the VOA blanks VBLKCU, VBLKSA and VBLKBF. 4-Methyl-2-pentanone detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

2-Hexanone was detected below the CRQL in the VOA blanks VBLKRG, VBLKCU, VBLKSA and VBLKBF. 2-Hexanone detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

Phenol was detected below the CRQL in the SVOA blank SBLKQR. Phenol detected in the samples at concentrations less than five times the value in their associated blank(s) were qualified as non-detects, "U".

4,4'-DDD was detected below the CRQL in the Pest/PCB blank PBLKPE. 4,4'-DDD detected in the samples at concentrations less than five times the value in their associated blank(s) were qualified as non-detects, "U".

4,4'-DDE, endrin, 4,4'-DDD and 4,4'-DDT were detected below the CRQL in the Pest/PCB blank PBLKMK. 4,4'-DDE, endrin, 4,4'-DDD and 4,4'-DDT detected in the samples at concentrations less than five times the value in their associated blank(s) were qualified as non-detects, "U".

Analytical Sequence - Acceptable

All of the standards, blanks, samples, and QC samples were analyzed in accordance with the SOW specified analytical sequence.

System Monitoring Compounds (SMC)/Surrogate Spikes

All of the VOA SMC recoveries met the applicable QC criteria with the following exception:

JW522MS 1,2-dichloroethane-d4 116%. None of the data were qualified on this basis.

All of the SVOA surrogates recoveries met the applicable QC criteria with the following exceptions:

JP431 2-Fluorobiphenyl 131% terphenyl-d14 24% phenol-d5 3%.

The 2-fluorobiphenyl recovery was high due to low internal standard area and therefore, no qualifiers were applied to the base/neutral analytes. Due to the extremely low phenol-d5 surrogate recovery, the detected acid fraction analytes were qualified as estimated, "J", and the non-detected acid fraction analytes were qualified "R". Sample JP431 was further qualified on the basis of low internal standard area.

JP431RE 2-Fluorobiphenyl 175%.

The 2-fluorobiphenyl recovery was high due to low internal standard area. None of the data were qualified on this basis.

JW581 Terphenyl-d14 22%. None of the data were qualified on this basis.

All of the Pest/PCB surrogate spike recoveries met the applicable QC criteria (30-150%) with the exception of the following:

JP430	TCX2 171%	DCB1 18%
JP431	DCB1 20%	
JW522	TCX1 4%	TCX2 0%
JW522MSD	TCX1 27%	TCX2 719%
JW527	TCX1 2%	TCX2 392%
JW576	TCX2 161%	DCB1 22%

Samples JW522 and JW527 were affected by extreme chromatographic interference. See compound identification for qualifications. Samples JP430, JP431 and JW576 were not qualified on the basis surrogate spike recovery.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

VOA sample JW522 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses with the following exceptions:

JW522MS	1,1-dichloroethene 57%
JW522MSD	1,1-dichloroethene 54%

SVOA sample JW522 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses with the following exceptions:

The RPDs between JW522MS and JW522MSD were 97% for 4-chloro-3-methylphenol, 85% for 4-nitrophenol, 66% for pentachlorophenol and 37% for pyrene.

Pest/PCB sample JW522 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses with the following exceptions:

JW522MS	gamma-BHC 31%,	heptachlor 17%	aldrin 37%
JW522MSD	gamma-BHC 11%,	heptachlor 22%	aldrin 5%

The RPDs between JW522MS and JW522MSD were 95% for gamma-BHC, 26% for heptachlor, 152% for aldrin and 48% for endrin.

No data qualification was applied based on MS/MSD analysis.

Internal Standards

The acceptance criteria for internal standards (IS) are ± 30 seconds for retention time (RT) shifts and -50% to +100% of the IS area as compared to the IS RT and area of the daily continuing calibration standard. All of the GC/MS analyses met the IS area and retention time shift criteria with following exceptions:

SVOA JP431	perylene-d12 -85%
JP431RE	perylene-d12 -97%

Due to the extremely low internal standard area the associated detected analytes were qualified as estimated, "J", and the associated non-detected analytes were qualified "R".

Compound Identification

All of the compounds detected in the GC/MS analyses were within the retention time windows, met the USEPA spectral matching criteria and were judged to be acceptable.

Single component pesticides were qualified as follows: where %Ds (between two column concentrations) > 30% but $\leq 60\%$ - detected results were qualified as estimated, "J"; %Ds > 60% with concentrations > CRQL - results were qualified as tentatively identified at the estimated concentration, "JN"; %Ds > 60% with concentrations < CRQL - results were qualified as non-detects, "U"; %Ds > 400% - results were qualified as non-detects with raised quantitation limit if > CRQL. In cases where %Ds < 60% with concentrations < CRQL and chromatographic interferences, the results were qualified as non-detects, "U". In cases where %Ds < 400% with concentrations > CRQL and chromatographic interferences, the results were qualified as tentatively identified at the estimated concentration, "JN".

Due to extreme chromatographic interference in the analysis of samples JW522 and JW527, the following single component and aroclor results were qualified "R":

alpha-BHC, beta-BHC, delta-BHC, gamma-BHC, heptachlor, aldrin, heptachlor epoxide, endosulfan-I, aroclor-1016, aroclor-1221, aroclor-1232, aroclor-1242 and aroclor-1248.

Tentatively Identified Compounds

Peaks that were detected in the samples at areas >10% of the internal standards and were not part of the target compound lists were identified as tentatively identified compounds (TICs). TICs that were both found in the sample and in the associated method blank(s) were qualified as unusable, "R." Peaks that were identified as common laboratory contaminants, solvent preservatives, column bleed or aldol condensation products were qualified as unusable, "R". The rest of the peaks identified as TICs were qualified "NJ", tentatively identified at an estimated concentration.

Laboratory Contact

The laboratory was contacted by Region 10 concerning the following items:

FORM IV VOA is missing for VBLKBF analyzed on 7/10 at 11:10.

Hard copies of all resubmissions will be sent to Region 10.

Overall Assessment

All of the samples were analyzed in accordance with the SOW specifications. The data, as qualified, are acceptable and can be used for all purposes.

Data Qualifiers

- U - The analyte was not detected at or above the reported result.
- J - The analyte was positively identified. The associated numerical result is an estimate.
- R - The data are unusable for all purposes.
- N - There is evidence the analyte is present in this sample.
- JN - There is evidence that the analyte is present. The associated numerical result is an estimate.
- UJ - The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.

Holding Time Summary - Case 27165

SDG: JW513

Sample Number	Collection Date	VTSR	VOA Analysis	SVOA Extraction	SVOA Analysis	Pest/PCB Extraction	Pest/PCB Analysis
JP414	7/8/99	7/9/99	7/18/99	NA	NA	NA	NA
JP423	7/9/99	7/10/99	7/19/99	NA	NA	NA	NA
JP424	7/9/99	7/14/99	7/21/99	NA	NA	NA	NA
JP425	7/9/99	7/14/99	NA	NA	NA	7/16/99	8/9/99
JP426	7/9/99	7/14/99	NA	7/15/99	7/19/99	NA	NA
JP427	7/9/99	7/14/99	7/21/99	7/15/99	7/20/99	7/16/99	8/9/99
JP430	7/9/99	7/14/99	7/21/99	7/26/99*	7/30/99	7/16/99	8/9/99
JP431	7/9/99	7/14/99	7/21/99	7/15/99	7/20/99	7/16/99	8/9/99
JW513	6/29/99	7/2/99	7/10/99	NA	NA	NA	NA
JW514	6/29/99	7/2/99	7/10/99	NA	NA	NA	NA
JW522	6/29/99	7/2/99	7/12/99	7/6/99	7/18/99	7/6/99	8/9/99
JW527	6/30/99	7/3/99	7/13/99	7/6/99	7/18/99	7/6/99	8/9/99
JW530	6/30/99	7/2/99	7/12/99	7/6/99	7/16/99	7/6/99	8/9/99
JW536	6/30/99	7/3/99	7/13/99	NA	NA	NA	NA
JW537	6/30/99	7/3/99	7/13/99	NA	NA	NA	NA
JW568	7/2/99	7/3/99	7/13/99	7/6/99	7/16/99	7/6/99	8/9/99
JW569	7/2/99	7/3/99	7/13/99	7/6/99	7/18/99	7/6/99	8/9/99
JW576	7/7/99	7/9/99	7/18/99	7/12/99	7/18/99	7/12/99	8/8/99
JW577	7/7/99	7/8/99	7/18/99	NA	NA	NA	NA
JW581	7/7/99	7/9/99	7/18/99	7/12/99	7/18/99	7/12/99	8/8/99
JW531RE	7/9/99	7/14/99	NA	7/22/99*	7/27/99	NA	NA

VTSR - Verified time of sample receipt in the laboratory

NA - Not available

* - Outside of holding time

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP414

Lab Name: COMPUCEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950022

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN050022A54

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. _____

Date Analyzed: 07/18/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP414

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950022

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn050022a54

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. _____

Date Analyzed: 07/18/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 311 89 7	PERFLUOROTRIBUTYLAMINE	10.12	7	NJ R
2.	Lab Contamination			
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-26-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP423

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950247

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CR050247A54

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. _____

Date Analyzed: 07/19/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	25	
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP423

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950247

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cr050247a54

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. _____

Date Analyzed: 07/19/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP424

Lab Name: COMPUCEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950546

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN050546A54

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. _____

Date Analyzed: 07/21/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	27	
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP424

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950546

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn050546a54

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. _____

Date Analyzed: 07/21/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP427

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950549

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN050549A54

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. _____

Date Analyzed: 07/21/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10 X 7u	U
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

FORM I VOA

CP
8-26-99
OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP427

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950549

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn050549a54

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. _____

Date Analyzed: 07/21/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP
8-26-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP430

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950550

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN050550A54

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. _____

Date Analyzed: 07/21/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	6	J
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP430

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950550

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn050550a54

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. _____

Date Analyzed: 07/21/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP431

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950551

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN050551A54

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. _____

Date Analyzed: 07/21/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	7	J
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

FORM I VOA

CP
8-26-99
OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP431

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950551

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn050551a54

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. _____

Date Analyzed: 07/21/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW513

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949462

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN049462A57

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. _____

Date Analyzed: 07/10/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

CP 8-26-99

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW513

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949462

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn049462a57

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. _____

Date Analyzed: 07/10/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW514

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949467

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN049467A57

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. _____

Date Analyzed: 07/10/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW514

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949467

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn049467a57

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. _____

Date Analyzed: 07/10/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW522

Lab Name: COMFUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949468

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CR049468B51

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. _____

Date Analyzed: 07/12/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	2	J
75-15-0-----	Carbon Disulfide	2	J
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	2	J
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	UJ
108-90-7-----	Chlorobenzene	5	J
100-41-4-----	Ethylbenzene	10	UJ
100-42-5-----	Styrene	10	UJ
1330-20-7-----	Xylene (Total)	2	J
540-59-0-----	1,2-Dichloroethene (total)	10	U

CP 8-26-99

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW522

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949468

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cr049468b51

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. _____

Date Analyzed: 07/12/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SUBSTITUTED BENZENE	21.93	5	JN
2. 119-64-2	NAPHTHALENE, 1,2,3,4-TETRAHY	23.86	5	NJ
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP
8-26-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW527

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949694

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN049694B51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. _____

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	100	U
74-83-9-----	Bromomethane	100	U
75-01-4-----	Vinyl Chloride	100	U
75-00-3-----	Chloroethane	100	U
75-09-2-----	Methylene Chloride	420	
67-64-1-----	Acetone	130	
75-15-0-----	Carbon Disulfide	100	U
75-35-4-----	1,1-Dichloroethene	100	U
75-34-3-----	1,1-Dichloroethane	100	U
67-66-3-----	Chloroform	100	U
107-06-2-----	1,2-Dichloroethane	100	U
78-93-3-----	2-Butanone	100	U
71-55-6-----	1,1,1-Trichloroethane	100	U
56-23-5-----	Carbon Tetrachloride	100	U
75-27-4-----	Bromodichloromethane	100	U
78-87-5-----	1,2-Dichloropropane	100	U
10061-01-5-----	cis-1,3-Dichloropropene	100	U
79-01-6-----	Trichloroethene	100	U
124-48-1-----	Dibromochloromethane	100	U
79-00-5-----	1,1,2-Trichloroethane	100	U
71-43-2-----	Benzene	100	U
10061-02-6-----	trans-1,3-Dichloropropene	100	U
75-25-2-----	Bromoform	100	U
108-10-1-----	4-Methyl-2-Pentanone	100	U
591-78-6-----	2-Hexanone	100	U
127-18-4-----	Tetrachloroethene	100	U
79-34-5-----	1,1,2,2-Tetrachloroethane	100	U
108-88-3-----	Toluene	100	U
108-90-7-----	Chlorobenzene	100	U
100-41-4-----	Ethylbenzene	100	U
100-42-5-----	Styrene	100	U
1330-20-7-----	Xylene (Total)	100	U
540-59-0-----	1,2-Dichloroethene (total)	100	U

CP 8-26-99

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW527

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949694

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn049694b51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. _____

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 10.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	8.79	198	NJ
2. 110-54-3	HEXANE	10.92	57	NJ
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW530

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949475

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CR049475B51

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. _____

Date Analyzed: 07/12/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	23	
67-64-1-----	Acetone	18	
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	3	J
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	1	J
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	2	J
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

FORM I VOA

OLM03.0

149

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW530

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949475

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cr049475b51

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. _____

Date Analyzed: 07/12/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 23

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKENE	4.88	110	JN
2.	UNKNOWN ALKENE	5.24	33	J
3.	UNKNOWN ALKENE	5.61	26	J
4.	UNKNOWN HYDROCARBON	6.34	10	JV
5. 78-78-4	BUTANE, 2-METHYL-	6.73	23	NJ
6.	UNKNOWN HYDROCARBON	7.37	31	JN
7.	UNKNOWN HYDROCARBON	7.58	52	J
8.	UNKNOWN HYDROCARBON	7.95	16	J
9.	UNKNOWN HYDROCARBON	8.24	14	J
10.	UNKNOWN HYDROCARBON	8.38	9	JV
11. 76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	8.80	16	NJ
12.	UNKNOWN HYDROCARBON	9.60	17	JN
13.	UNKNOWN ALKANE	9.85	10	J
14.	UNKNOWN ALKENE	9.91	9	J
15.	UNKNOWN ALKANE	10.35	10	J
16.	UNKNOWN ALKENE	10.73	26	JV
17. 110-54-3	HEXANE	10.92	11	NJ
18.	UNKNOWN ALKENE	11.11	6	JN
19.	SUBSTITUTED HEXENE	11.23	10	J
20.	SUBSTITUTED HEXENE	11.59	10	J
21.	UNKNOWN ALKENE	13.28	10	J
22.	UNKNOWN HYDROCARBON	14.10	6	J
23.	UNKNOWN HYDROCARBON	22.74	8	JV
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW536

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949695

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN049695B51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. _____

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	36	
67-64-1-----	Acetone	16	
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

FORM I VOA

CP
8-26-99
OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW536

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949695

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn049695b51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. _____

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	8.79	20	NJ
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW537

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949696

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN049696B51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. _____

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	28	
67-64-1-----	Acetone	14	
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	39	
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	7	J
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	2	J
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

FORM I VOA

OLM03.0

194A

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW537

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949696

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn049696b51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. _____

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	8.79	17	NJ
2.	SUBSTITUTED ALKANE	13.94	9	JN
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW568

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949697

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN049697B51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. _____

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	4	J
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW568

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949697

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn049697b51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. _____

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 124-19-6	NONANAL	22.74	6	NJ
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW569

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949698

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN049698B51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. _____

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	3	J
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW569

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949698

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn049698b51

Level: (low/med) LOW

Date Received: 07/03/99

% Moisture: not dec. _____

Date Analyzed: 07/13/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW576

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950023

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN050023A54

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec.

Date Analyzed: 07/18/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

FORM I VOA

OLM03.0

221

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW576

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950023

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn050023a54

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. _____

Date Analyzed: 07/18/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 311-89-7	PERFLUOROTRIBUTYLAMINE <i>Lab Cont.</i>	10.14	12	NJ <i>R</i>
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW577

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949973

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN049973A54

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: not dec. _____

Date Analyzed: 07/18/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U

FORM I VOA

OLM03.0

230

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW577

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949973

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn049973a54

Level: (low/med) LOW

Date Received: 07/08/99

% Moisture: not dec. _____

Date Analyzed: 07/18/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW581

Lab Name: COMPUCEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950024

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN050024A54

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. _____

Date Analyzed: 07/18/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	U
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	1	J
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (Total)	10	U
540-59-0-----	1,2-Dichloroethene (total)	21	

10 27U

FORM I VOA

OLM03.0

237

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW581

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950024

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: cn050024a54

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. _____

Date Analyzed: 07/18/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 60-29-7	ETHER	8.05	21	NJ
2. 3278-46-4	PROPANOIC ACID, 2,2,3-TRICHL	10.06	12	NJ
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP426

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950548

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GH050548A64

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/15/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/19/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

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
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	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
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	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

FORM I SV-1

CV 8-27-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP426

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950548

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GH050548A64

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/15/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/19/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	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	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	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	25	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	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	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	1	J
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenzo(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP
8-27-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP426

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950548

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GH050548A64

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/15/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/19/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 8-27-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP427

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950549

Sample wt/vol: 970 (g/mL) ML

Lab File ID: GH050549A64

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/15/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

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
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	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
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	26	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	26	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	26	U
83-32-9	Acenaphthene	10	U

FORM I SV-1

CP 8-27-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP427

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950549

Sample wt/vol: 970 (g/mL) ML

Lab File ID: GH050549A64

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/15/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

CAS NO.

COMPOUND

Q

51-28-5-----	2,4-Dinitrophenol	26	U
100-02-7-----	4-Nitrophenol	26	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	26	U
534-52-1-----	4,6-Dinitro-2-methylphenol	26	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	26	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	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	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenzo(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP427

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950549

Sample wt/vol: 970 (g/mL) ML

Lab File ID: GH050549A64

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/15/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

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

Number TICs found: 2

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.10	3	JN
2.	UNKNOWN	6.65	2	JN
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP
8-27-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP430

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950550

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GR050550B70

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/26/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/30/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

CAS NO.

COMPOUND

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

Q

108-95-2-----	Phenol	10	U	J
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	
95-50-1-----	1,2-Dichlorobenzene	10	U	
95-48-7-----	2-Methylphenol	10	U	
108-60-1-----	2,2'-oxybis(1-Chloropropane)	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	
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	25	U	
91-58-7-----	2-Chloronaphthalene	10	U	
88-74-4-----	2-Nitroaniline	25	U	
131-11-3-----	Dimethylphthalate	10	U	
208-96-8-----	Acenaphthylene	10	U	
606-20-2-----	2,6-Dinitrotoluene	10	U	
99-09-2-----	3-Nitroaniline	25	U	
83-32-9-----	Acenaphthene	10	U	✓

FORM I SV-1

CP 8-27-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP430

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950550

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GR050550B70

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/26/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/30/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

51-28-5-----	2,4-Dinitrophenol	25	UJ
100-02-7-----	4-Nitrophenol	25	UU
132-64-9-----	Dibenzofuran	10	UU
121-14-2-----	2,4-Dinitrotoluene	10	UU
84-66-2-----	Diethylphthalate	1	J
7005-72-3-----	4-Chlorophenyl-phenylether	10	UUJ
86-73-7-----	Fluorene	10	UU
100-01-6-----	4-Nitroaniline	25	UU
534-52-1-----	4,6-Dinitro-2-methylphenol	25	UU
86-30-6-----	N-nitrosodiphenylamine (1)	10	UU
101-55-3-----	4-Bromophenyl-phenylether	10	UU
118-74-1-----	Hexachlorobenzene	10	UU
87-86-5-----	Pentachlorophenol	2	J
85-01-8-----	Phenanthrene	10	UU
120-12-7-----	Anthracene	10	UU
86-74-8-----	Carbazole	10	UU
84-74-2-----	Di-n-butylphthalate	10	UU
206-44-0-----	Fluoranthene	1	J
129-00-0-----	Pyrene	3	J
85-68-7-----	Butylbenzylphthalate	10	UU
91-94-1-----	3,3'-Dichlorobenzidine	10	UU
56-55-3-----	Benzo(a)anthracene	10	UU
218-01-9-----	Chrysene	10	UU
117-81-7-----	bis(2-Ethylhexyl)phthalate	17	J
117-84-0-----	Di-n-octylphthalate	1	J
205-99-2-----	Benzo(b)fluoranthene	10	UU
207-08-9-----	Benzo(k)fluoranthene	10	UU
50-32-8-----	Benzo(a)pyrene	10	UU
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	UU
53-70-3-----	Dibenzo(a,h)anthracene	10	UU
191-24-2-----	Benzo(g,h,i)perylene	10	UU

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP 8-27-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP430

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950550

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GR050550B70

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/26/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/30/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

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

Number TICs found: 32

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	TRICHLOROPROPENE (BC) <i>Lab Contamination</i>	5.76	6	JB R
2.	UNKNOWN (BC)	6.42	7	JB R
3.	UNKNOWN	10.46	24	JN
4.	UNKNOWN	11.61	5	J
5.	UNKNOWN	11.93	6	J
6.	UNKNOWN	12.25	4	J
7.	UNKNOWN	12.66	5	J
8.	UNKNOWN	12.93	7	J
9.	UNKNOWN	13.03	6	J
10.	UNKNOWN	13.08	6	J
11.	UNKNOWN	13.13	4	J
12.	UNKNOWN	13.20	5	J
13.	UNKNOWN	13.33	5	J
14.	UNKNOWN	13.38	4	J
15.	UNKNOWN	13.57	5	J
16.	UNKNOWN	13.82	6	J
17.	UNKNOWN PHTHALATE	13.87	4	J
18.	UNKNOWN	13.91	7	J
19.	UNKNOWN	14.18	6	J
20.	UNKNOWN	14.25	9	J
21.	UNKNOWN	14.36	14	J
22.	UNKNOWN AMIDE	14.48	13	J
23.	UNKNOWN	14.57	4	J
24.	UNKNOWN	14.62	8	J
25.	UNKNOWN	14.68	5	J
26.	UNKNOWN	14.82	10	J
27.	UNKNOWN	14.97	7	J
28.	UNKNOWN	15.04	9	J
29.	UNKNOWN	15.14	4	J
30.	UNKNOWN	15.24	6	J

FORM I SV-TIC

CP 8-27-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP430

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950550

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GR050550B70

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/26/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/30/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

Number TICs found: 32

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	UNKNOWN	15.61	21	JN
2.	UNKNOWN	15.87	5	JN
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 8-27-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP431

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950551

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GH050551A66

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/15/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

108-95-2	Phenol	10	U R
111-44-4	bis(2-Chloroethyl) ether	10	U
95-57-8	2-Chlorophenol	10	U R
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U R
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U R
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 R
105-67-9	2,4-Dimethylphenol	10	U R
111-91-1	bis(2-Chloroethoxy) methane	10	U
120-83-2	2,4-Dichlorophenol	10	U R
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 R
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U R
95-95-4	2,4,5-Trichlorophenol	25	U R
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

FORM I SV-1

CP
8-27-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP431

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950551

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GH050551A66

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/15/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

CAS NO.

COMPOUND

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

Q

51-28-5-----	2,4-Dinitrophenol	25	✓ R
100-02-7-----	4-Nitrophenol	25	✓ R
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	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	✓ R
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	5	J
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	10	U
84-74-2-----	Di-n-butylphthalate	10	U
206-44-0-----	Fluoranthene	1	J
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	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	1	J
117-84-0-----	Di-n-octylphthalate	10	✓ R
205-99-2-----	Benzo (b) fluoranthene	2	J
207-08-9-----	Benzo (k) fluoranthene	10	✓ R
50-32-8-----	Benzo (a) pyrene	10	✓ R
193-39-5-----	Indeno (1,2,3-cd) pyrene	10	✓ R
53-70-3-----	Dibenzo (a,h) anthracene	10	✓ R
191-24-2-----	Benzo (g,h,i) perylene	10	✓ R

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP
8-27-99

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP431

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950551

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GH050551A66

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/15/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN SILOXANE <i>Lab Cont.</i>	5.42	160	J R
2.	UNKNOWN	6.03	4	JN
3.	UNKNOWN	6.28	3	J
4.	UNKNOWN	6.68	4	J ↓
5.	UNKNOWN SILOXANE <i>Lab Cont.</i>	7.19	64	J R
6.	UNKNOWN	7.68	3	JN
7.	UNKNOWN	7.78	5	J ↓
8.	UNKNOWN	8.43	3	J ↓
9.	UNKNOWN	8.68	7	J ↓
10.	UNKNOWN SILOXANE <i>Lab Cont.</i>	8.94	20	J R
11. 85-44-9	PHTHALIC ANHYDRIDE	9.24	8	NJ
12.	UNKNOWN SILOXANE <i>Lab Cont.</i>	10.52	3	J R
13.	UNKNOWN	11.04	8	JN
14.	UNKNOWN	12.15	3	J ↓
15.	UNKNOWN	12.45	10	J ↓
16.	BENZOTHAZOLONE	12.53	3	J ↓
17.	UNKNOWN	12.69	3	J ↓
18.	UNKNOWN SILOXANE <i>Lab Cont.</i>	13.29	2	J R
19.	UNKNOWN	13.66	4	JN
20.	UNKNOWN	14.31	5	J ↓
21.	UNKNOWN	14.90	2	J ↓
22.	NAPHTHALIC ANHYDRIDE	15.34	2	J ↓
23.	UNKNOWN	15.44	4	J ↓
24.	UNKNOWN	15.81	3	J ↓
25.	UNKNOWN	16.16	3	J ↓
26.	UNKNOWN	17.30	3	J ↓
27.	UNKNOWN	17.43	3	J ↓
28.	UNKNOWN	18.23	4	J ↓
29.	UNKNOWN	21.56	12	J ↓
30.	UNKNOWN	22.86	2	JV

FORM I SV-TIC

CP 8-27-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP431RE

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950551

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GR050551A66

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/22/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

CAS NO.

COMPOUND

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

Q

108-95-2-----	Phenol	10	U	5
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	
95-50-1-----	1,2-Dichlorobenzene	10	U	
95-48-7-----	2-Methylphenol	10	U	
108-60-1-----	2,2'-oxybis(1-Chloropropane)	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	
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	25	U	
91-58-7-----	2-Chloronaphthalene	10	U	
88-74-4-----	2-Nitroaniline	25	U	
131-11-3-----	Dimethylphthalate	10	U	
208-96-8-----	Acenaphthylene	10	U	
606-20-2-----	2,6-Dinitrotoluene	10	U	
99-09-2-----	3-Nitroaniline	25	U	
83-32-9-----	Acenaphthene	10	U	✓

FORM I SV-1

CP
8-27-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP431RE

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950551

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GR050551A66

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/22/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

51-28-5-----	2,4-Dinitrophenol	25	U	J
100-02-7-----	4-Nitrophenol	25	U	↓
132-64-9-----	Dibenzofuran	10	U	↓
121-14-2-----	2,4-Dinitrotoluene	10	U	↓
84-66-2-----	Diethylphthalate	2	J	
7005-72-3-----	4-Chlorophenyl-phenylether	10	U	J
86-73-7-----	Fluorene	10	U	↓
100-01-6-----	4-Nitroaniline	25	U	↓
534-52-1-----	4,6-Dinitro-2-methylphenol	25	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	1	J	
85-01-8-----	Phenanthrene	10	U	J
120-12-7-----	Anthracene	10	U	↓
86-74-8-----	Carbazole	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	10	U	↓
218-01-9-----	Chrysene	10	U	↓
117-81-7-----	bis(2-Ethylhexyl)phthalate	6	J	
117-84-0-----	Di-n-octylphthalate	10	U	↓
205-99-2-----	Benzo (b) fluoranthene	10	U	↓
207-08-9-----	Benzo (k) fluoranthene	10	U	↓
50-32-8-----	Benzo (a) pyrene	10	U	↓
193-39-5-----	Indeno (1,2,3-cd) pyrene	10	U	↓
53-70-3-----	Dibenzo (a,h) anthracene	10	U	↓
191-24-2-----	Benzo (g,h,i) perylene	10	U	↓

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP 8-27-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP431RE

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950551

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GR050551A66

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/22/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 31

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	TRICHLOROPROPENE (BC) Lab Cont.	4.19	5	JR
2.	UNKNOWN SILOXANE	4.66	54	JR
3.	UNKNOWN SILOXANE	6.35	57	JR
4.	UNKNOWN	6.75	3	JN
5.	UNKNOWN SILOXANE Lab Cont.	8.08	11	JR
6. 85-44-9	PHTHALIC ANHYDRIDE Lab Cont.	8.28	4	NJ
7.	UNKNOWN SILOXANE	9.27	13	JR
8.	UNKNOWN	9.50	3	JN
9.	UNKNOWN SILOXANE Lab Cont.	9.64	3	JR
10.	UNKNOWN	11.48	5	JN
11.	UNKNOWN	11.71	3	JJ
12.	UNKNOWN	13.34	5	JJ
13.	UNKNOWN	14.22	3	JJ
14.	UNKNOWN	15.08	3	JJ
15.	UNKNOWN	16.04	5	JJ
16.	UNKNOWN	16.23	3	JJ
17.	UNKNOWN	16.29	5	JJ
18.	UNKNOWN	16.41	3	JJ
19.	UNKNOWN	16.62	3	JJ
20.	UNKNOWN	16.99	5	JJ
21.	UNKNOWN	17.37	3	JJ
22.	UNKNOWN	17.79	4	JJ
23.	UNKNOWN	17.93	5	JJ
24.	UNKNOWN	18.04	5	JJ
25.	UNKNOWN	18.51	7	JJ
26.	UNKNOWN	19.48	6	JJ
27.	UNKNOWN	19.65	5	JJ
28.	UNKNOWN	20.14	5	JJ
29.	UNKNOWN	20.58	3	JJ
30.	UNKNOWN	20.70	3	JJ

FORM I SV-TIC

CP 8-27-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP431RE

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950551

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GR050551A66

Level: (low/med) LOW

Date Received: 07/14/99

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

Date Extracted: 07/22/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Number TICs found: 31

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	21.06	3	JN
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 8-27-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW522

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949468

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GJ049468A66

Level: (low/med) LOW

Date Received: 07/02/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

108-95-2-----	Phenol	3	J
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
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	5	J
108-60-1-----	2,2'-oxybis(1-Chloropropane)	10	U J
106-44-5-----	4-Methylphenol	3	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
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	1	J
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	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

FORM I SV-1

CP 8-27-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW522

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949468

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GJ049468A66

Level: (low/med) LOW

Date Received: 07/02/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

CAS NO.

COMPOUND

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

Q

51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	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	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	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	25	U J
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	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	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenzo(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP 8-27-99

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW522

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949468

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GJ049468A66

Level: (low/med) LOW

Date Received: 07/02/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.56	16	JN
2.	UNKNOWN	7.80	8	J
3.	UNKNOWN	8.22	28	J
4.	UNKNOWN	8.89	8	JV
5. 99-94-5	BENZOIC ACID, 4-METHYL-	9.14	16	NJ
6.	UNKNOWN	11.17	17	JN
7.	UNKNOWN	11.24	8	JN
8. 10544-50-0	SULFUR, MOL. (S8)	11.40	8	NJ
9.	UNKNOWN	11.54	8	JN
10.	UNKNOWN	11.80	21	J
11.	UNKNOWN	11.85	24	J
12.	UNKNOWN	11.98	23	J
13.	UNKNOWN	12.05	13	J
14.	UNKNOWN	12.17	31	J
15.	UNKNOWN	12.34	8	J
16.	UNKNOWN	12.78	8	JV
17. 934-34-9	2(3H)-BENZOTHAZOLONE	12.89	12	NJ
18.	UNKNOWN	13.10	15	JN
19.	UNKNOWN	13.22	8	J
20.	UNKNOWN	13.29	8	J
21.	UNKNOWN	13.47	9	J
22.	UNKNOWN	13.73	10	J
23.	UNKNOWN	13.85	9	J
24.	UNKNOWN	13.97	16	J
25.	UNKNOWN	14.08	13	J
26.	UNKNOWN	14.13	12	J
27.	UNKNOWN	14.24	26	JV
28. 10544-50-0	SULFUR, MOL. (S8)	14.83	55	NJ
29. 10544-50-0	SULFUR, MOL. (S8)	15.60	300	NJ
30. 10544-50-0	SULFUR, MOL. (S8)	15.81	66	NJ

FORM I SV-TIC

CP 8-27-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW527

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949694

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GJ049694A66

Level: (low/med) LOW

Date Received: 07/03/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

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
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis (1-Chloropropane)	10	U J
106-44-5-----	4-Methylphenol	1	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
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	3	J
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	2	J
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

FORM I SV-1

CP 8-27-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW527

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949694

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GJ049694A66

Level: (low/med) LOW

Date Received: 07/03/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	2	J
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-01-6-----	4-Nitroaniline	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	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	25	U J
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	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	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	6	J
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenzo(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW527

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949694

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GJ049694A66

Level: (low/med) LOW

Date Received: 07/03/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

Number TICs found: 30

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.15	6	JN
2.	UNKNOWN	10.70	7	J
3.	UNKNOWN	10.89	8	J
4.	SULFUR	11.43	25	J
5.	UNKNOWN	11.50	6	J
6.	UNKNOWN	12.03	6	J
7.	UNKNOWN	12.54	5	J
8.	BENZOTHIASOLONE	12.83	21	J
9.	UNKNOWN	12.94	5	J
10.	UNKNOWN	13.06	6	J
11.	UNKNOWN	13.22	13	J
12.	SULFUR	13.83	6	J
13.	UNKNOWN	14.04	16	J
14.	UNKNOWN	14.25	8	J
15.	UNKNOWN	14.32	12	J
16.	UNKNOWN	14.41	8	J
17.	UNKNOWN	14.52	7	J
18.	UNKNOWN	14.66	14	J
19.	UNKNOWN	14.73	9	J
20.	UNKNOWN CARBOXYLIC ACID	14.80	18	J
21.	UNKNOWN	14.90	16	J
22.	UNKNOWN	14.97	14	J
23.	UNKNOWN	15.06	14	J
24.	UNKNOWN	15.11	16	J
25.	UNKNOWN	15.24	31	J
26.	UNKNOWN	15.34	29	J
27.	UNKNOWN	15.57	63	J
28.	UNKNOWN	15.74	49	JV
29. 10544-50-0	SULFUR, MOL. (S8)	15.88	44	NJ
30.	UNKNOWN	17.57	9	JN

FORM I SV-TIC

CP 8-27-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW530

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949475

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GH049475A66

Level: (low/med) LOW

Date Received: 07/02/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/16/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

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
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis (1-Chloropropane)	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
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	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

FORM I SV-1

CP
8-27-99 OLM03.0

781

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW530

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949475

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GH049475A66

Level: (low/med) LOW

Date Received: 07/02/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/16/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

CAS NO.

COMPOUND

Q

51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	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	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	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	25	U J
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	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	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenzo(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP
8-27-99 OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW530

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949475

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GH049475A66

Level: (low/med) LOW

Date Received: 07/02/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/16/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 8-27-99 OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW568

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949697

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GH049697A66

Level: (low/med) LOW

Date Received: 07/03/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/16/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

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
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	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
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	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

FORM I SV-1

CP
8-27-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW568

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949697

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GH049697A66

Level: (low/med) LOW

Date Received: 07/03/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/16/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	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	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	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	25	U J
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	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	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenzo(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW568

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949697

Sample wt/vol: 500 (g/mL) ML

Lab File ID: GH049697A66

Level: (low/med) LOW

Date Received: 07/03/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/16/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

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

Number TICs found: 10

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.01	8	JN
2.	UNKNOWN (BC) <i>Lab Cont.</i>	7.96	5	JB R
3.	UNKNOWN (BC) ↓	9.40	2	JB R
4.	UNKNOWN	9.73	3	JN
5.	UNKNOWN (BC) <i>Lab Cont.</i>	10.15	6	JB R
6. 101 84 8	DIPHENYL ETHER ↓	10.27	2	NJB R
7.	UNKNOWN	11.45	2	JN
8. 119 61 9	BENZOPHENONE <i>Lab Cont.</i>	12.33	6	NJB R
9.	UNKNOWN	13.64	2	JN
10. 10544-50-0	SULFUR, MOL. (S8)	15.83	8	NJ
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 8-27-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW569

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949698

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GJ049698A66

Level: (low/med) LOW

Date Received: 07/03/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

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
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	10	U J
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
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	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

FORM I SV-1

8-27-99 OLM03.0

812

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW569

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949698

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GJ049698A66

Level: (low/med) LOW

Date Received: 07/03/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

CAS NO.

COMPOUND

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

Q

51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	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	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	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	25	U J
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	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	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenzo(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP
8-27-99

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW569

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949698

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GJ049698A66

Level: (low/med) LOW

Date Received: 07/03/99

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

Date Extracted: 07/06/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.12	4	JN
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 8-27-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW576

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950023

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GH050023B64

Level: (low/med) LOW

Date Received: 07/09/99

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

Date Extracted: 07/12/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

CAS NO.

COMPOUND

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

Q

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
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	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
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	25	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	25	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	25	U
83-32-9-----	Acenaphthene	10	U

FORM I SV-1

CP
8.27-99

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW576

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950023

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GH050023B64

Level: (low/med) LOW

Date Received: 07/09/99

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

Date Extracted: 07/12/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

51-28-5-----	2,4-Dinitrophenol	25	U
100-02-7-----	4-Nitrophenol	25	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	25	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25	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	25	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	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	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo (b) fluoranthene	10	U
207-08-9-----	Benzo (k) fluoranthene	10	U
50-32-8-----	Benzo (a) pyrene	10	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	10	U
53-70-3-----	Dibenzo (a,h) anthracene	10	U
191-24-2-----	Benzo (g,h,i) perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP
8-27-99

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW576

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950023

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: GH050023B64

Level: (low/med) LOW

Date Received: 07/09/99

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

Date Extracted: 07/12/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

Number TICs found: 4

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.63	4	JN
2.	UNKNOWN	10.32	2	JN
3. 10544-50-0	SULFUR, MOL. (S8)	15.71	3	NJ
4.	UNKNOWN	25.32	2	JN
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 8-27-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW581

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950024

Sample wt/vol: 950 (g/mL) ML

Lab File ID: GH050024B64

Level: (low/med) LOW

Date Received: 07/09/99

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

Date Extracted: 07/12/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

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
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	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
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	26	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	26	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U
99-09-2-----	3-Nitroaniline	26	U
83-32-9-----	Acenaphthene	10	U

FORM I SV-1

OLM03.0

CP
8-27-99

840

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW581

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950024

Sample wt/vol: 950 (g/mL) ML

Lab File ID: GH050024B64

Level: (low/med) LOW

Date Received: 07/09/99

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

Date Extracted: 07/12/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

51-28-5-----	2,4-Dinitrophenol	26	U
100-02-7-----	4-Nitrophenol	26	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	3	J
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-01-6-----	4-Nitroaniline	26	U
534-52-1-----	4,6-Dinitro-2-methylphenol	26	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	26	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
86-74-8-----	Carbazole	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	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo (b) fluoranthene	10	U
207-08-9-----	Benzo (k) fluoranthene	10	U
50-32-8-----	Benzo (a) pyrene	10	U
193-39-5-----	Indeno (1,2,3-cd) pyrene	10	U
53-70-3-----	Dibenzo (a,h) anthracene	10	U
191-24-2-----	Benzo (g,h,i) perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP
8-27-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW581

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950024

Sample wt/vol: 950 (g/mL) ML

Lab File ID: GH050024B64

Level: (low/med) LOW

Date Received: 07/09/99

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

Date Extracted: 07/12/99

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 07/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

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

Number TICs found: 10

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	TRICHLOROPROPENE (BC) Lab Cont.	5.93	2	JB-R
2. 65-85-0	BENZOIC ACID	8.44	2	NJ
3.	UNKNOWN	8.76	13	JN
4.	UNKNOWN	10.50	4	J
5.	UNKNOWN	11.18	6	J
6.	UNKNOWN	11.38	3	J
7.	METHYLBENZENESULFONAMIDE	12.62	4	J
8.	METHYLBENZENESULFONAMIDE	12.94	3	J
9.	UNKNOWN CARBOXYLIC ACID	14.86	2	J
10.	UNKNOWN	15.54	2	JV
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

8-27-99
OLM03.0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP425

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950547

Sample wt/vol: 1010 (g/mL) ML

Lab File ID: _____

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

Date Received: 07/14/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/16/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/09/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) 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	0.099	U
72-55-9-----	4,4'-DDE	0.099	U
72-20-8-----	Endrin	0.099	U
33213-65-9-----	Endosulfan II	0.099	U
72-54-8-----	4,4'-DDD	0.099	U
1031-07-8-----	Endosulfan sulfate	0.099	U
50-29-3-----	4,4'-DDT	0.099	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.099	U
7421-93-4-----	Endrin aldehyde	0.099	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	0.99	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	0.99	U
53469-21-9-----	Aroclor-1242	0.99	U
12672-29-6-----	Aroclor-1248	0.99	U
11097-69-1-----	Aroclor-1254	0.99	U
11096-82-5-----	Aroclor-1260	0.99	U

FORM I PEST

OLM03.0

1344A

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP427

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950549

Sample wt/vol: 1020 (g/mL) ML

Lab File ID: _____

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

Date Received: 07/14/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/16/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/09/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

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

Q

319-84-6-----	alpha-BHC	0.049	U
319-85-7-----	beta-BHC	0.049	U
319-86-8-----	delta-BHC	0.049	U
58-89-9-----	gamma-BHC (Lindane)	0.049	U
76-44-8-----	Heptachlor	0.049	U
309-00-2-----	Aldrin	0.049	U
1024-57-3-----	Heptachlor epoxide	0.049	U
959-98-8-----	Endosulfan I	0.049	U
60-57-1-----	Dieldrin	0.098	U
72-55-9-----	4,4'-DDE	0.098	U
72-20-8-----	Endrin	0.098	U
33213-65-9-----	Endosulfan II	0.098	U
72-54-8-----	4,4'-DDD	0.098	U
1031-07-8-----	Endosulfan sulfate	0.098	U
50-29-3-----	4,4'-DDT	0.098	U
72-43-5-----	Methoxychlor	0.49	U
53494-70-5-----	Endrin ketone	0.098	U
7421-93-4-----	Endrin aldehyde	0.098	U
5103-71-9-----	alpha-Chlordane	0.049	U
5103-74-2-----	gamma-Chlordane	0.049	U
8001-35-2-----	Toxaphene	4.9	U
12674-11-2-----	Aroclor-1016	0.98	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	0.98	U
53469-21-9-----	Aroclor-1242	0.98	U
12672-29-6-----	Aroclor-1248	0.98	U
11097-69-1-----	Aroclor-1254	0.98	U
11096-82-5-----	Aroclor-1260	0.98	U

CP 8-30-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP430

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950550

Sample wt/vol: 500.0 (g/mL) ML

Lab File ID: _____

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

Date Received: 07/14/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/16/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/09/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) 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	0.033	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.064	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
7421-93-4-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

CP
8-30-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP431

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950551

Sample wt/vol: 500.0 (g/mL) ML

Lab File ID: _____

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

Date Received: 07/14/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/16/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/09/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Sulfur Cleanup: (Y/N) N

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	0.10	U
72-55-9-----	4,4'-DDE	0.01	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
7421-93-4-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

CP
8-30-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW522

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949468

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

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

Date Received: 07/02/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/06/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/09/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Sulfur Cleanup: (Y/N) N

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

319-84-6-----alpha-BHC	0.050	✓ R
319-85-7-----beta-BHC	0.11	P
319-86-8-----delta-BHC	0.050	P
58-89-9-----gamma-BHC (Lindane)	0.050	P
76-44-8-----Heptachlor	0.050	P
309-00-2-----Aldrin	0.050	P
1024-57-3-----Heptachlor epoxide	0.050	P
959-98-8-----Endosulfan I	0.050	P
60-57-1-----Dieldrin	0.10	U
72-55-9-----4,4'-DDE	0.10	P
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
7421-93-4-----Endrin aldehyde	0.10	U
5103-71-9-----alpha-Chlordane	0.050	U
5103-74-2-----gamma-Chlordane	0.050	U
8001-35-2-----Toxaphene	5.0	U
12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	2.0	U
11141-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	1.0	U
11096-82-5-----Aroclor-1260	1.0	U

0.10 ~~0.079~~ IPBU

CP
8-30-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW527

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949694

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

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

Date Received: 07/03/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/06/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/09/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Sulfur Cleanup: (Y/N) N

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

CAS NO.

COMPOUND

Q

319-84-6-----	alpha-BHC	0.050	U R
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	0.61	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	1.3	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
7421-93-4-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

CP
8-30-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW530

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949475

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

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

Date Received: 07/02/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/06/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/09/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) 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 0.011	JPU
72-55-9-----	4,4'-DDE	0.036	J#
72-20-8-----	Endrin	0.10 0.0038	JPU
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.040	J#
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10 0.013	JPU
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
7421-93-4-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

CP 8-30-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW568

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949697

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

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

Date Received: 07/03/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/06/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/09/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) 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
7421-93-4-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

CP
8-30-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW569

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 949698

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

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

Date Received: 07/03/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/06/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/09/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) 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
7421-93-4-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

CP 8.30.99

FORM I PEST

OLM03.0

1409

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW576

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950023

Sample wt/vol: 940.0 (g/mL) ML

Lab File ID: _____

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

Date Received: 07/09/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/12/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/08/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Sulfur Cleanup: (Y/N) N

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

CAS NO.

COMPOUND

Q

319-84-6-----	alpha-BHC	0.053	U
319-85-7-----	beta-BHC	0.053	U
319-86-8-----	delta-BHC	0.053	U
58-89-9-----	gamma-BHC (Lindane)	0.053	U
76-44-8-----	Heptachlor	0.053	U
309-00-2-----	Aldrin	0.053	U
1024-57-3-----	Heptachlor epoxide	0.053	U
959-98-8-----	Endosulfan I	0.053	U
60-57-1-----	Dieldrin	0.11	U
72-55-9-----	4,4'-DDE	0.11	U
72-20-8-----	Endrin	0.11	U
33213-65-9-----	Endosulfan II	0.11	U
72-54-8-----	4,4'-DDD	0.11	U
1031-07-8-----	Endosulfan sulfate	0.11	U
50-29-3-----	4,4'-DDT	0.11	U
72-43-5-----	Methoxychlor	0.53	U
53494-70-5-----	Endrin ketone	0.11	U
7421-93-4-----	Endrin aldehyde	0.11	U
5103-71-9-----	alpha-Chlordane	0.053	U
5103-74-2-----	gamma-Chlordane	0.053	U
8001-35-2-----	Toxaphene	5.3	U
12674-11-2-----	Aroclor-1016	1.1	U
11104-28-2-----	Aroclor-1221	2.1	U
11141-16-5-----	Aroclor-1232	1.1	U
53469-21-9-----	Aroclor-1242	1.1	U
12672-29-6-----	Aroclor-1248	1.1	U
11097-69-1-----	Aroclor-1254	1.1	U
11096-82-5-----	Aroclor-1260	0.37	J

FORM I PEST

OLM03.0

1414

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW581

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW513

Matrix: (soil/water) WATER

Lab Sample ID: 950024

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: _____

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

Date Received: 07/09/99

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 07/12/99

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 08/08/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

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	0.050	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.041	JP
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
7421-93-4-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.050	U
5103-74-2-----	gamma-Chlordane	0.050	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	0.41	J

CP
8-30-99



ecology and environment, inc.

International Specialists in the Environment

1500 First Interstate Center, 999 Third Avenue
Seattle, Washington 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: September 24, 1999

TO: Mark Woodke, Project Manager, E & E, Seattle, WA

FROM: Leatta Dahlhoff, Chemist, E & E, Seattle, WA *LD*

SUBJ: Organic Data Quality Assurance Summary Check,
Wenatchee Brownfield, Wenatchee, Washington

REF: TDD: 98-11-0007 PAN: CK0701SIDM

The data quality assurance summary review of 20 soil samples collected from the Wenatchee Brownfield site in Wenatchee, Washington, has been completed. Samples were analyzed for Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), and Pesticides/PCBs in accordance with the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analyses (revision OLM03.1). The analyses were performed by CompuChem of Cary, North Carolina.

There were no discrepancies noted in the review.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: OEA-095

September 21, 1999

MEMORANDUM

Subject: Data Validation Report for Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs) and Pesticide/Polychlorinated Biphenyls (Pest/PCBs) Analysis of Samples from Wenatchee Brownfields
Case: 27165 SDGs: JP410

From: *[Signature]* Gina Grepo-Grove, Chemist
Quality Assurance & Data Unit, OEA

To: *[Signature]* Joanne Labaw, Site Manager, ECL

CC: Bruce Woods, Region 10 CLP TPO
Tracy Trople, Ecology and Environment

The quality assurance (QA) review of 20 soil samples collected from the above referenced site has been completed. These samples were analyzed for VOCs, SVOCs and pest/PCBs in accordance with the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analyses (revision OLMO3.1). The analyses were performed by Compuchem of Cary, NC. The data validations were performed by the Environmental Services Assistance Team (ESAT) and the USEPA Manchester Environmental Laboratory, Port Orchard, WA.

The laboratory had to be contacted to obtain additional information and data in order to complete the review. There were no significant problems encountered with the data. All of the samples were analyzed in accordance with the technical requirements specified in the SOW. The data, as qualified, can be used for all purposes.

Attached are the validation memos for the above mentioned case and sample delivery groups (SDGs).

ENVIRONMENTAL SERVICES ASSISTANCE TEAMS - WESTERN ZONE

LOCKHEED MARTIN
TECHNOLOGY SERVICES GROUP

ESAT Region 10
Lockheed Martin
7411 Beach Drive East
Port Orchard, WA 98366
Phone (360) 871-8723

DELIVERABLE NARRATIVE

DATE: September 15, 1999

TO: Ginna Grepo-Grove, WAM, USEPA, Region 10

THROUGH: Dave Dobb, Team Manager, ESAT Region 10 *DD*

FROM: Chris Pace, Task Lead, ESAT Region 10 *CP*

SUBJECT: Data validation report for the volatile organic (VOA), semi-volatile organic (SVOA) and pesticide/polychlorinated biphenyl (Pest/PCB) analysis of samples from the Wenatchee Brownfields Site. Case: 27165 SDG: JP410

DOC: ESW10-3-1420

PWO: ESW72023

TDF: 3644

WA: 10-99-3-10

CC: Gerald Dodo, RPO, USEPA, Region 10
Project File

The quality assurance (QA) review of 20 soil samples collected from the above referenced site has been completed. These samples were analyzed for VOA (8), SVOA (8) and Pest/PCB (19) in accordance with the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analyses (OLM03.2) by COMPUCEM of Cary, NC.

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the USEPA CLP SOW for Organic Analysis (OLM03.2), the USEPA CLP National Functional Guidelines for Organic Data Review (2/94) and the Region 10 Guidelines for CLP Data Review.

The conclusions presented herein are based on the information provided for the review.

Holding Time

All samples were preserved with ice prior to shipment. All of the samples met the method and technical (40 CFR 136) required holding times for all analyses with the following exceptions:

SVOA sample JP428 was extracted 20 days from the collection date and therefore, associated target analytes were qualified as estimated, "J/UJ".

The Holding Times Summary listing the pertinent collection, extraction, and analysis dates is attached at the end of this validation report.

Instrument Performance - Acceptable

All of the GC and GC/MS systems met the SOW specified technical acceptance criteria prior to sample analyses, i.e., GC/MS performance checks, GC performance checks, retention times, response factors, and calibrations. The systems remained stable throughout the course of analyses. Instrument blanks were all clean and there were no

indications of carry-over.

Initial Calibrations

Two VOA, four SVOA and two Pest/PCB initial calibrations were performed. The initial calibrations met the SOW technical acceptance criteria with the following exceptions:

- VOA Initial Calibration on 6/28/99, instrument 55 - the %RSD for 2-hexanone was 31.4. The lowest calibration level was non-linear. Associated samples were qualified as estimated, "J/UJ", in the non-linear portion of the calibration curve.
- VOA Initial Calibration on 7/16/99, instrument 51 - the %RSDs for acetone and 2-butanone were 38.5 and 47.4 respectively. The lowest calibration levels were non-linear. Associated samples were qualified as estimated, "J/UJ", in the non-linear portion of the calibration curve.
- SVOA Initial Calibration on 7/23/99, instrument 66 - the %RSD for 3,3'-dichlorobenzidine was 33.1. The lowest calibration level was non-linear. Associated samples were qualified as estimated, "J/UJ", in the non-linear portion of the calibration curve.
- SVOA Initial Calibration on 7/26/99, instrument 66 - the %RSD for 3,3'-dichlorobenzidine was 45.5. The lowest calibration level was non-linear. Associated samples were qualified as estimated, "J/UJ", in the non-linear portion of the calibration curve.

Continuing Calibration Verification (CCVs) Standards

All of the CCVs met the criteria for frequency of analysis, the minimum response factor, the retention time and the percent differences (%Ds) criteria with the following exceptions:

- The %Ds for the following VOA compounds exceeded the QC limits and the associated results were qualified accordingly:

Date /Time of Analysis	Inst. i.d.	Compound	%D	Qualifier Detect/Non-detect
7/16/99 (14:22)	51	2-butanone	-27.2	J/UJ
7/20/99 (13:45)	51	4-methyl-2-pentanone 2-hexanone	30.7 25.8	J/none none
7/22/99 (20:56)	55	acetone carbon disulfide 1,1-dichloroethene 2-butanone 4-methyl-2-pentanone 2-hexanone	-53.8 -27.8 -25.2 -55.8 -48.5 -56.6	J/UJ J/UJ none J/UJ J/UJ J/UJ

The %Ds for the following SVOA compounds exceeded the QC limits and the associated results were qualified accordingly:

Date /Time of Analysis	Inst. i.d.	Compound	%D	Qualifier Detect/Non-detect
7/13/99 (11:33)	66	pentachlorophenol 3,3'-dichlorobenzidine 2,4,6-tribromophenol (surr.)	-28.8 48.4 33.0	J/UJ J/none none
7/14/99 (10:50)	66	2,4-dinitrophenol 3,3'-dichlorobenzidine	34.6 28.2	J/none J/none
7/24/99 (10:52)	66	3-nitroaniline 4-nitroaniline	-25.2 -33.0	none J/UJ
7/27/99 (09:30)	66	2,2'-oxybis(1-chloropropane) carbazole 3,3'-dichlorobenzidine di-n-octylphthalate	33.8 32.8 -25.2 -25.3	J/none J/none none none
7/14/99 (23:38)	70	pentachlorophenol 2,4,6-tribromophenol (surr.)	-27.5 -28.8	J/UJ none
7/30/99 (23:07)	70	4-chloroaniline 3-nitroaniline 2,4-dinitrophenol 4-nitroaniline pentachlorophenol butylbenzylphthalate 3,3'-dichlorobenzidine bis (2-ethylhexyl)phthalate di-n-octylphthalate 2-fluorophenol (surr.)	45.4 35.8 -32.3 39.0 -33.3 26.4 59.1 31.6 48.0 -25.2	J/none J/none J/UJ J/none J/UJ J/none J/none J/none J/none none

Compound Quantitation and Detection Limits

All of the samples were analyzed at the contract required quantitation limits (CRQLs) with the following exceptions:

Pest/PCB samples JP421, JW585, JW591, JW593 and JW595 were analyzed at dilutions of 2X, 5X, 5X, 10X and 5X respectively, based on the results of the screen analysis.

Target compounds that were detected at concentrations less than the CRQLs were qualified as estimated, "J". Detected compounds at concentrations over the calibration range were qualified as estimated, "J". Data users should consider these estimated compounds as the minimum amount present in the samples. It is also recommended that for these compounds, data users should utilize the concentrations reported from the dilution runs. All of the reported results were adjusted for sample amounts analyzed.

Blanks

Methylene chloride, acetone, 2-butanone and 2-hexanone were detected below the CRQL in the VOA blank VBLKB4. Methylene chloride, acetone, 2-butanone and 2-hexanone detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

Methylene chloride, acetone and 2-butanone were detected below the CRQL in the VOA blank VBLKZ7.

Methylene chloride, acetone and 2-butanone detected in the samples at concentrations less than ten times the value

in their associated blank(s) were qualified as non-detects, "U".

Methylene chloride and acetone was detected below the CRQL in the VOA blanks VBLKZ8 and VHBLD7. Methylene chloride and acetone detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

Alpha-BHC, beta-BHC, heptachlor, aldrin, heptachlor epoxide, dieldrin, 4,4'-DDE, 4,4'-DDD, endosulfan sulfate, 4,4'-DDT, endrin aldehyde and gamma chlordane were detected below the CRQL in the Pest/PCB blank PBLKNX. Alpha-BHC, beta-BHC, heptachlor, aldrin, heptachlor epoxide, dieldrin, 4,4'-DDE, 4,4'-DDD, endosulfan sulfate, 4,4'-DDT, endrin aldehyde and gamma chlordane detected in the samples at concentrations less than five times the value in their associated blank(s) were qualified as non-detects, "U".

Aldrin, heptachlor epoxide, 4,4'-DDD and 4,4'-DDT were detected below the CRQL in the Pest/PCB blank PBLKOJ. Aldrin, heptachlor epoxide, 4,4'-DDD and 4,4'-DDT detected in the samples at concentrations less than five times the value in their associated blank(s) were qualified as non-detects, "U".

4,4'-DDE, 4,4'-DDD and 4,4'-DDT were detected below the CRQL in the Pest/PCB blank PBLKPD. 4,4'-DDE, 4,4'-DDD and 4,4'-DDT detected in the samples at concentrations less than five times the value in their associated blank(s) were qualified as non-detects, "U".

Alpha-BHC, beta-BHC, heptachlor epoxide, 4,4'-DDE, endrin, 4,4'-DDD, endosulfan sulfate and 4,4'-DDT were detected below the CRQL in the Pest/PCB blank PBLKXN. Alpha-BHC, beta-BHC, heptachlor epoxide, 4,4'-DDE, endrin, 4,4'-DDD, endosulfan sulfate and 4,4'-DDT detected in the samples at concentrations less than five times the value in their associated blank(s) were qualified as non-detects, "U".

Analytical Sequence - Acceptable

All of the standards, blanks, samples, and QC samples were analyzed in accordance with the SOW specified analytical sequence.

System Monitoring Compounds (SMC)/Surrogate Spikes

All of the VOA SMC recoveries met the applicable QC criteria.

All of the SVOA surrogates recoveries met the applicable QC criteria.

All of the Pest/PCB surrogate spike recoveries met the applicable QC criteria (30-150%) with the following exceptions:

JP429 TCX2 174%, DCB1 263%

JW593 DCB1 151%, DCB2 152%

Surrogated recoveries for sample JP429 were affected by chromatographic interferences. Surrogate recoveries for sample JW593 were only slightly outside of the recovery criteria. None of the data were qualified on the basis of surrogate spike recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

VOA sample JP410 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses.

SVOA sample JP410 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses.

Pest/PCB sample JP410 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses.

No data qualification was applied based on MS/MSD analysis.

Internal Standards - Acceptable

The acceptance criteria for internal standards (IS) are ± 30 seconds for retention time (RT) shifts and -50% to +100% of the IS area as compared to the IS RT and area of the daily continuing calibration standard. All of the GC/MS analyses met the IS area and retention time shift criteria.

Compound Identification

All of the compounds detected in the GC/MS analyses were within the retention time windows, met the USEPA spectral matching criteria and were judged to be acceptable.

Single component pesticides and aroclors were qualified as follows: where %Ds (between two column concentrations) $> 30\%$ but $\leq 60\%$ - detected results were qualified as estimated, "J"; %Ds $> 60\%$ with concentrations $> CRQL$ - results were qualified as tentatively identified at the estimated concentration, "JN"; %Ds $> 60\%$ with concentrations $< CRQL$ - results were qualified as non-detects, "U"; %Ds $> 400\%$ - results were qualified as non-detects with raised quantitation limit if $> CRQL$. In cases where %Ds $< 60\%$ with concentrations $< CRQL$ and chromatographic interferences, the results were qualified as non-detects, "U". In cases where %Ds $< 400\%$ with concentrations $> CRQL$ and chromatographic interferences, the results were qualified as tentatively identified at the estimated concentration, "JN".

Tentatively Identified Compounds

Peaks that were detected in the samples at areas $> 10\%$ of the internal standards and were not part of the target compound lists were identified as tentatively identified compounds (TICs). TICs that were both found in the sample and in the associated method blank(s) were qualified as unusable, "R." Peaks that were identified as common laboratory contaminants, solvent preservatives, column bleed or aldol condensation products were qualified as unusable, "R". The rest of the peaks identified as TICs were qualified "NJ", tentatively identified at an estimated concentration.

Laboratory Contact

The laboratory was contacted by Region 10 concerning the following items:

All raw data for the SVOA instrument performance check on 7/8/99 at 20:41 (instrument HP70) is missing. Raw data for the instrument performance check on 7/9/99 at 08:46 was included and is not needed.

Hard copies of all resubmissions will be sent to Region 10.

Overall Assessment

All of the samples were analyzed in accordance with the SOW specifications. The data, as qualified, are acceptable and can be used for all purposes.

Data Qualifiers

- U - The analyte was not detected at or above the reported result.
- J - The analyte was positively identified. The associated numerical result is an estimate.
- R - The data are unusable for all purposes.
- N - There is evidence the analyte is present in this sample.
- JN - There is evidence that the analyte is present. The associated numerical result is an estimate.
- UJ - The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.

Holding Time Summary - Case 27165

SDG: JP410

Sample Number	Collection Date	VTSR	VOA Analysis	SVOA Extraction	SVOA Analysis	Pest/PCB Extraction	Pest/PCB Analysis
JP410	7/8/99	7/9/99	7/16/99	7/9/99	7/14/99	7/9/99	8/11/99
JP418	7/8/99	7/10/99	7/16/99	7/12/99	7/15/99	7/13/99	8/18/99
JP419	7/8/99	7/10/99	7/16/99	7/12/99	7/15/99	NA	NA
JP420	7/9/99	7/10/99	7/16/99	7/12/99	7/15/99	7/13/99	8/20/99
JP421	7/9/99	7/10/99	7/16/99	7/12/99	7/15/99	7/13/99	8/18/99
JP422	7/9/99	7/10/99	7/16/99	7/12/99	7/15/99	7/13/99	8/18/99
JP428	7/9/99	7/14/99	7/16/99	7/29/99	7/31/99	7/16/99	8/19/99
JP429	7/9/99	7/14/99	7/16/99	7/16/99	7/27/99	7/16/99	8/19/99
JW585	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/20/99
JW586	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/18/99
JW587	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/18/99
JW588	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/18/99
JW589	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/18/99
JW590	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/18/99
JW591	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/20/99
JW592	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/18/99
JW593	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/18/99
JW594	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/18/99
JW595	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/20/99
JW596	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/18/99
JP410DL	7/8/99	7/9/99	NA	NA	NA	7/9/99	8/19/99
JW585DL	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/19/99
JW587DL	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/20/99
JW591DL	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/20/99
JW593DL	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/20/99
JW595DL	7/8/99	7/10/99	NA	NA	NA	7/13/99	8/19/99

VTSR - Verified time of sample receipt in the laboratory

NA - Not available

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP410

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 949999

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049999A51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 9

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	49	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (Total)	11	U

FORM I VOA

OLM03.0

CPG-13-99

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP410

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 94999

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049999a51

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: not dec. 9

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

EPA SAMPLE NO.

JP418

Contract: 68D50004

SDG No.: JP410

Lab Sample ID: 950231

Lab File ID: GH050231A51

Date Received: 07/10/99

Date Analyzed: 07/16/99

Dilution Factor: 1.0

Soil Aliquot Volume: _____ (uL)

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

COMPOUND

(ug/L or ug/Kg) ug/Kg

Q

74-87-3-----	Chloromethane	11	U
74-83-9-----	Bromomethane	11	U
75-01-4-----	Vinyl Chloride	11	U
75-00-3-----	Chloroethane	11	U
75-09-2-----	Methylene Chloride	11	U
67-64-1-----	Acetone	29	U
75-15-0-----	Carbon Disulfide	11	U
75-35-4-----	1,1-Dichloroethene	11	U
75-34-3-----	1,1-Dichloroethane	11	U
540-59-0-----	1,2-Dichloroethene (total)	11	U
67-66-3-----	Chloroform	11	U
107-06-2-----	1,2-Dichloroethane	11	U
78-93-3-----	2-Butanone	11	U
71-55-6-----	1,1,1-Trichloroethane	11	U
56-23-5-----	Carbon Tetrachloride	11	U
75-27-4-----	Bromodichloromethane	11	U
78-87-5-----	1,2-Dichloropropane	11	U
10061-01-5-----	cis-1,3-Dichloropropene	11	U
79-01-6-----	Trichloroethene	11	U
124-48-1-----	Dibromochloromethane	11	U
79-00-5-----	1,1,2-Trichloroethane	11	U
71-43-2-----	Benzene	11	U
10061-02-6-----	trans-1,3-Dichloropropene	11	U
75-25-2-----	Bromoform	11	U
108-10-1-----	4-Methyl-2-Pentanone	11	U
591-78-6-----	2-Hexanone	11	U
127-18-4-----	Tetrachloroethene	11	U
79-34-5-----	1,1,2,2-Tetrachloroethane	11	U
108-88-3-----	Toluene	11	U
108-90-7-----	Chlorobenzene	11	U
100-41-4-----	Ethylbenzene	11	U
100-42-5-----	Styrene	11	U
1330-20-7-----	Xylene (Total)	11	U

CP 9-13-99

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP418

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950231

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050231a51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 11

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab Contamination</i>	20.59	19	J R
2.	LABORATORY ARTIFACT	22.54	18	J R
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 9-13-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP419

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950232

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050232A51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 14

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	12	U
74-83-9-----	Bromomethane	12	U
75-01-4-----	Vinyl Chloride	12	U
75-00-3-----	Chloroethane	12	U
75-09-2-----	Methylene Chloride	12	U
67-64-1-----	Acetone	12	U
75-15-0-----	Carbon Disulfide	12	U
75-35-4-----	1,1-Dichloroethene	12	U
75-34-3-----	1,1-Dichloroethane	12	U
540-59-0-----	1,2-Dichloroethene (total)	12	U
67-66-3-----	Chloroform	12	U
107-06-2-----	1,2-Dichloroethane	12	U
78-93-3-----	2-Butanone	12	U
71-55-6-----	1,1,1-Trichloroethane	12	U
56-23-5-----	Carbon Tetrachloride	12	U
75-27-4-----	Bromodichloromethane	12	U
78-87-5-----	1,2-Dichloropropane	12	U
10061-01-5-----	cis-1,3-Dichloropropene	12	U
79-01-6-----	Trichloroethene	12	U
124-48-1-----	Dibromochloromethane	12	U
79-00-5-----	1,1,2-Trichloroethane	12	U
71-43-2-----	Benzene	12	U
10061-02-6-----	trans-1,3-Dichloropropene	12	U
75-25-2-----	Bromoform	12	U
108-10-1-----	4-Methyl-2-Pentanone	12	U
591-78-6-----	2-Hexanone	12	U
127-18-4-----	Tetrachloroethene	12	U
79-34-5-----	1,1,2,2-Tetrachloroethane	12	U
108-88-3-----	Toluene	12	U
108-90-7-----	Chlorobenzene	12	U
100-41-4-----	Ethylbenzene	12	U
100-42-5-----	Styrene	12	U
1330-20-7-----	Xylene (Total)	12	U

CP 9-13-99

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP419

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950232

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050232a51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 14

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.57	7	J R
2.	LABORATORY ARTIFACT	22.53	19	J R
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP
9-13-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP420

Lab Name: COMPUCEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950233

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050233A51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 6

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	-----Chloromethane	11	U
74-83-9	-----Bromomethane	11	U
75-01-4	-----Vinyl Chloride	11	U
75-00-3	-----Chloroethane	11	U
75-09-2	-----Methylene Chloride	11	U
67-64-1	-----Acetone	170	U
75-15-0	-----Carbon Disulfide	11	U
75-35-4	-----1,1-Dichloroethene	11	U
75-34-3	-----1,1-Dichloroethane	11	U
540-59-0	-----1,2-Dichloroethene (total)	11	U
67-66-3	-----Chloroform	11	U
107-06-2	-----1,2-Dichloroethane	11	U
78-93-3	-----2-Butanone	40	U
71-55-6	-----1,1,1-Trichloroethane	11	U
56-23-5	-----Carbon Tetrachloride	11	U
75-27-4	-----Bromodichloromethane	11	U
78-87-5	-----1,2-Dichloropropane	11	U
10061-01-5	-----cis-1,3-Dichloropropene	11	U
79-01-6	-----Trichloroethene	11	U
124-48-1	-----Dibromochloromethane	11	U
79-00-5	-----1,1,2-Trichloroethane	11	U
71-43-2	-----Benzene	11	U
10061-02-6	-----trans-1,3-Dichloropropene	11	U
75-25-2	-----Bromoform	11	U
108-10-1	-----4-Methyl-2-Pentanone	11	U
591-78-6	-----2-Hexanone	11	U
127-18-4	-----Tetrachloroethene	11	U
79-34-5	-----1,1,2,2-Tetrachloroethane	11	U
108-88-3	-----Toluene	11	U
108-90-7	-----Chlorobenzene	11	U
100-41-4	-----Ethylbenzene	11	U
100-42-5	-----Styrene	11	U
1330-20-7	-----Xylene (Total)	11	U

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP420

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950233

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050233a51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 6

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.56	43	J R
2.	UNKNOWN HYDROCARBON	20.79	13	JN
3.	SUBSTITUTED BENZENE	21.20	8	JN
4.	DECAHYDRONAPHTHALENE ISOMER	22.01	6	JN
5.	LABORATORY ARTIFACT <i>Lab Cont.</i>	22.52	25	J R
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 9-13-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP421

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950234

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050234A51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 8

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3	-----Chloromethane	11	U
74-83-9	-----Bromomethane	11	U
75-01-4	-----Vinyl Chloride	11	U
75-00-3	-----Chloroethane	11	U
75-09-2	-----Methylene Chloride	11	U
67-64-1	-----Acetone	62	U
75-15-0	-----Carbon Disulfide	11	U
75-35-4	-----1,1-Dichloroethene	11	U
75-34-3	-----1,1-Dichloroethane	11	U
540-59-0	-----1,2-Dichloroethene (total)	11	U
67-66-3	-----Chloroform	11	U
107-06-2	-----1,2-Dichloroethane	11	U
78-93-3	-----2-Butanone	11	U
71-55-6	-----1,1,1-Trichloroethane	11	U
56-23-5	-----Carbon Tetrachloride	11	U
75-27-4	-----Bromodichloromethane	11	U
78-87-5	-----1,2-Dichloropropane	11	U
10061-01-5	-----cis-1,3-Dichloropropene	11	U
79-01-6	-----Trichloroethene	11	U
124-48-1	-----Dibromochloromethane	11	U
79-00-5	-----1,1,2-Trichloroethane	11	U
71-43-2	-----Benzene	11	U
10061-02-6	-----trans-1,3-Dichloropropene	11	U
75-25-2	-----Bromoform	11	U
108-10-1	-----4-Methyl-2-Pentanone	11	U
591-78-6	-----2-Hexanone	11	U
127-18-4	-----Tetrachloroethene	11	U
79-34-5	-----1,1,2,2-Tetrachloroethane	11	U
108-88-3	-----Toluene	11	U
108-90-7	-----Chlorobenzene	11	U
100-41-4	-----Ethylbenzene	11	U
100-42-5	-----Styrene	11	U
1330-20-7	-----Xylene (Total)	11	U

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP421

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950234

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050234a51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 8

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.56	129	J R
2.	LABORATORY ARTIFACT	22.51	116	J R
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 9-13-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP422

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950235

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050235A51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 15

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	U
67-64-1	Acetone	37	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (Total)	12	U

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP422

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950235

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050235a51

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: not dec. 15

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab. Cont.</i>	20.57	17	<i>R</i>
2.	LABORATORY ARTIFACT	22.52	27	<i>R</i>
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 9-13-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP428

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950544

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050544B51

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. 7

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	-----Chloromethane	11	U
74-83-9	-----Bromomethane	11	U
75-01-4	-----Vinyl Chloride	11	U
75-00-3	-----Chloroethane	11	U
75-09-2	-----Methylene Chloride	11	U
67-64-1	-----Acetone	78	BU
75-15-0	-----Carbon Disulfide	11	U
75-35-4	-----1,1-Dichloroethene	11	U
75-34-3	-----1,1-Dichloroethane	11	U
540-59-0	-----1,2-Dichloroethene (total)	11	U
67-66-3	-----Chloroform	11	U
107-06-2	-----1,2-Dichloroethane	11	U
78-93-3	-----2-Butanone	// 10	BUJ
71-55-6	-----1,1,1-Trichloroethane	11	U
56-23-5	-----Carbon Tetrachloride	11	U
75-27-4	-----Bromodichloromethane	11	U
78-87-5	-----1,2-Dichloropropane	11	U
10061-01-5	-----cis-1,3-Dichloropropene	11	U
79-01-6	-----Trichloroethene	11	U
124-48-1	-----Dibromochloromethane	11	U
79-00-5	-----1,1,2-Trichloroethane	11	U
71-43-2	-----Benzene	11	U
10061-02-6	-----trans-1,3-Dichloropropene	11	U
75-25-2	-----Bromoform	11	U
108-10-1	-----4-Methyl-2-Pentanone	11	U
591-78-6	-----2-Hexanone	11	U
127-18-4	-----Tetrachloroethene	11	U
79-34-5	-----1,1,2,2-Tetrachloroethane	11	U
108-88-3	-----Toluene	11	U
108-90-7	-----Chlorobenzene	11	U
100-41-4	-----Ethylbenzene	11	U
100-42-5	-----Styrene	11	U
1330-20-7	-----Xylene (Total)	11	U

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP428

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950544

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050544b51

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. 7

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SUBSTITUTED ALKANE	21.44	9	JN
2.	SUBSTITUTED ALKANE	21.70	13	JN
3.	SUBSTITUTED BENZENE	21.94	6	JN
4.	DECAHYDRONAPHTHALENE ISOMER	22.02	6	JN
5.	LABORATORY ARTIFACT <i>Lab Cont.</i>	22.53	12	8 R
6.	UNKNOWN CYCLIC HYDROCARBON	23.04	8	JN
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP429

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950545

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH050545B51

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. 23

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	13	U
67-64-1	Acetone	33	BU
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
540-59-0	1,2-Dichloroethene (total)	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (Total)	13	U

FORM I VOA

CR 7-17-99
OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP429

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950545

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh050545b51

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: not dec. 23

Date Analyzed: 07/16/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

Number TICs found: 5

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	LABORATORY ARTIFACT Lab Cont.	20.56	10	J R
2.	UNKNOWN ALKANE	20.82	19	JN
3.	SUBSTITUTED BENZENE	21.20	11	JN
4.	SUBSTITUTED CYCLOHEXANE	21.39	7	JN
5.	LABORATORY ARTIFACT Lab Cont.	22.54	8	J R
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 9-13-99

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP410

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 949999

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049999A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 9 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

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

108-95-2-----	Phenol	360	U
111-44-4-----	bis(2-Chloroethyl) ether	360	U
95-57-8-----	2-Chlorophenol	360	U
541-73-1-----	1,3-Dichlorobenzene	360	U
106-46-7-----	1,4-Dichlorobenzene	360	U
95-50-1-----	1,2-Dichlorobenzene	360	U
95-48-7-----	2-Methylphenol	360	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	360	U
106-44-5-----	4-Methylphenol	360	U
621-64-7-----	N-Nitroso-di-n-propylamine	360	U
67-72-1-----	Hexachloroethane	360	U
98-95-3-----	Nitrobenzene	360	U
78-59-1-----	Isophorone	360	U
88-75-5-----	2-Nitrophenol	360	U
105-67-9-----	2,4-Dimethylphenol	360	U
111-91-1-----	bis(2-Chloroethoxy) methane	360	U
120-83-2-----	2,4-Dichlorophenol	360	U
120-82-1-----	1,2,4-Trichlorobenzene	360	U
91-20-3-----	Naphthalene	360	U
106-47-8-----	4-Chloroaniline	360	U
87-68-3-----	Hexachlorobutadiene	360	U
59-50-7-----	4-Chloro-3-methylphenol	360	U
91-57-6-----	2-Methylnaphthalene	360	U
77-47-4-----	Hexachlorocyclopentadiene	360	U
88-06-2-----	2,4,6-Trichlorophenol	360	U
95-95-4-----	2,4,5-Trichlorophenol	910	U
91-58-7-----	2-Chloronaphthalene	360	U
88-74-4-----	2-Nitroaniline	910	U
131-11-3-----	Dimethylphthalate	360	U
208-96-8-----	Acenaphthylene	360	U
606-20-2-----	2,6-Dinitrotoluene	360	U
99-09-2-----	3-Nitroaniline	910	U
83-32-9-----	Acenaphthene	360	U

FORM I SV-1

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP410

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 949999

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049999A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 9 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

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

51-28-5-----	2,4-Dinitrophenol	910	U
100-02-7-----	4-Nitrophenol	910	U
132-64-9-----	Dibenzofuran	360	U
121-14-2-----	2,4-Dinitrotoluene	360	U
84-66-2-----	Diethylphthalate	360	U
7005-72-3-----	4-Chlorophenyl-phenylether	360	U
86-73-7-----	Fluorene	360	U
100-01-6-----	4-Nitroaniline	910	U
534-52-1-----	4,6-Dinitro-2-methylphenol	910	U
86-30-6-----	N-nitrosodiphenylamine (1)	360	U
101-55-3-----	4-Bromophenyl-phenylether	360	U
118-74-1-----	Hexachlorobenzene	360	U
87-86-5-----	Pentachlorophenol	910	U
85-01-8-----	Phenanthrene	360	U
120-12-7-----	Anthracene	360	U
86-74-8-----	Carbazole	360	U
84-74-2-----	Di-n-butylphthalate	360	U
206-44-0-----	Fluoranthene	360	U
129-00-0-----	Pyrene	360	U
85-68-7-----	Butylbenzylphthalate	360	U
91-94-1-----	3,3'-Dichlorobenzidine	360	U
56-55-3-----	Benzo(a)anthracene	360	U
218-01-9-----	Chrysene	360	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	64	J
117-84-0-----	Di-n-octylphthalate	360	U
205-99-2-----	Benzo(b)fluoranthene	360	U
207-08-9-----	Benzo(k)fluoranthene	360	U
50-32-8-----	Benzo(a)pyrene	360	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	360	U
53-70-3-----	Dibenzo(a,h)anthracene	360	U
191-24-2-----	Benzo(g,h,i)perylene	360	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP410

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 949999

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH049999A66

Level: (low/med) LOW

Date Received: 07/09/99

% Moisture: 9 decanted: (Y/N) N

Date Extracted: 07/09/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/14/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

PC Cleanup: (Y/N) Y pH: 8.0

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	10.26	350	JN
2.	UNKNOWN	16.25	820	J
3.	UNKNOWN	20.44	370	J
4.	UNKNOWN	20.60	580	J
5.	UNKNOWN	20.79	530	J
6.	UNKNOWN	20.86	240	J
7.	UNKNOWN	21.09	1300	J
8.	UNKNOWN	21.22	480	J
9.	UNKNOWN	21.30	730	J
10.	UNKNOWN	21.55	690	J
11.	UNKNOWN	21.60	480	J
12.	UNKNOWN	21.67	700	J
13.	UNKNOWN	21.81	470	J
14.	UNKNOWN	21.85	980	J
15.	UNKNOWN	22.07	560	J
16.	UNKNOWN	22.14	790	J
17.	UNKNOWN	22.30	700	J
18.	UNKNOWN	22.37	560	J
19.	UNKNOWN	22.44	740	J
20.	UNKNOWN	22.58	610	J
21.	UNKNOWN	22.72	770	J
22.	UNKNOWN	22.83	670	J
23.	UNKNOWN	22.92	510	J
24.	UNKNOWN	23.09	750	J
25.	UNKNOWN	23.28	900	J
26.	UNKNOWN	23.46	480	J
27.	UNKNOWN	23.55	570	J
28.	UNKNOWN	23.81	350	J
29.	UNKNOWN	23.97	240	J
30.	UNKNOWN	24.23	380	J

FORM I SV-TIC

CP 9-14-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP418

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950231

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050231B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 11 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

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

108-95-2	Phenol	370	U
111-44-4	bis(2-Chloroethyl) ether	370	U
95-57-8	2-Chlorophenol	370	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U
95-48-7	2-Methylphenol	370	U
108-60-1	2,2'-oxybis(1-Chloropropane)	370	U
106-44-5	4-Methylphenol	370	U
621-64-7	N-Nitroso-di-n-propylamine	370	U
67-72-1	Hexachloroethane	370	U
98-95-3	Nitrobenzene	370	U
78-59-1	Isophorone	370	U
88-75-5	2-Nitrophenol	370	U
105-67-9	2,4-Dimethylphenol	370	U
111-91-1	bis(2-Chloroethoxy)methane	370	U
120-83-2	2,4-Dichlorophenol	370	U
120-82-1	1,2,4-Trichlorobenzene	370	U
91-20-3	Naphthalene	370	U
106-47-8	4-Chloroaniline	370	U
87-68-3	Hexachlorobutadiene	370	U
59-50-7	4-Chloro-3-methylphenol	370	U
91-57-6	2-Methylnaphthalene	370	U
77-47-4	Hexachlorocyclopentadiene	370	U
88-06-2	2,4,6-Trichlorophenol	370	U
95-95-4	2,4,5-Trichlorophenol	930	U
91-58-7	2-Chloronaphthalene	370	U
88-74-4	2-Nitroaniline	930	U
131-11-3	Dimethylphthalate	370	U
208-96-8	Acenaphthylene	370	U
606-20-2	2,6-Dinitrotoluene	370	U
99-09-2	3-Nitroaniline	930	U
83-32-9	Acenaphthene	370	U

FORM I SV-1

OLM03.0

CP
G-14-99

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP418

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950231

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050231B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 11 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

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

CAS NO.

COMPOUND

Q

51-28-5-----2,4-Dinitrophenol	930	U
100-02-7-----4-Nitrophenol	930	U
132-64-9-----Dibenzofuran	370	U
121-14-2-----2,4-Dinitrotoluene	370	U
84-66-2-----Diethylphthalate	370	U
7005-72-3-----4-Chlorophenyl-phenylether	370	U
86-73-7-----Fluorene	370	U
100-01-6-----4-Nitroaniline	930	U
534-52-1-----4,6-Dinitro-2-methylphenol	930	U
86-30-6-----N-nitrosodiphenylamine (1)	370	U
101-55-3-----4-Bromophenyl-phenylether	370	U
118-74-1-----Hexachlorobenzene	370	U
87-86-5-----Pentachlorophenol	930	U
85-01-8-----Phenanthrene	370	U
120-12-7-----Anthracene	370	U
86-74-8-----Carbazole	370	U
84-74-2-----Di-n-butylphthalate	370	U
206-44-0-----Fluoranthene	370	U
129-00-0-----Pyrene	370	U
85-68-7-----Butylbenzylphthalate	370	U
91-94-1-----3,3'-Dichlorobenzidine	370	U
56-55-3-----Benzo(a)anthracene	370	U
218-01-9-----Chrysene	370	U
117-81-7-----bis(2-Ethylhexyl)phthalate	49	J
117-84-0-----Di-n-octylphthalate	370	U
205-99-2-----Benzo(b)fluoranthene	370	U
207-08-9-----Benzo(k)fluoranthene	370	U
50-32-8-----Benzo(a)pyrene	370	U
193-39-5-----Indeno(1,2,3-cd)pyrene	370	U
53-70-3-----Dibenzo(a,h)anthracene	370	U
191-24-2-----Benzo(g,h,i)perylene	370	U

(1) - Cannot be separated from Diphenylamine

CP 9-14-99

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP418

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950231

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050231B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 11 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.1

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

Number TICs found: 19

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN Lab Contamination	6.78	180	J R
2.	UNKNOWN AMIDE	17.16	140	J N
3.	UNKNOWN	17.85	190	J
4.	UNKNOWN	18.08	93	J
5.	UNKNOWN	18.20	120	J
6.	UNKNOWN	18.25	160	J
7.	UNKNOWN	18.51	84	J
8.	UNKNOWN	18.61	150	J
9.	UNKNOWN	18.96	79	J
10.	UNKNOWN	19.35	93	J
11.	UNKNOWN	20.52	93	J
12.	UNKNOWN	22.11	140	J
13.	UNKNOWN	22.24	130	J
14.	UNKNOWN	22.29	86	J
15.	UNKNOWN	22.34	140	J
16.	UNKNOWN	22.41	160	J
17.	UNKNOWN	22.53	96	J
18.	UNKNOWN	22.58	110	J
19.	UNKNOWN	22.70	120	J V
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP419

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950232

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050232B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 14 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO.

COMPOUND

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

Q

108-95-2-----Phenol	380	U
111-44-4-----bis(2-Chloroethyl)ether	380	U
95-57-8-----2-Chlorophenol	380	U
541-73-1-----1,3-Dichlorobenzene	380	U
106-46-7-----1,4-Dichlorobenzene	380	U
95-50-1-----1,2-Dichlorobenzene	380	U
95-48-7-----2-Methylphenol	380	U
108-60-1-----2,2'-oxybis(1-Chloropropane)	380	U
106-44-5-----4-Methylphenol	380	U
621-64-7-----N-Nitroso-di-n-propylamine	380	U
67-72-1-----Hexachloroethane	380	U
98-95-3-----Nitrobenzene	380	U
78-59-1-----Isophorone	380	U
88-75-5-----2-Nitrophenol	380	U
105-67-9-----2,4-Dimethylphenol	380	U
111-91-1-----bis(2-Chloroethoxy)methane	380	U
120-83-2-----2,4-Dichlorophenol	380	U
120-82-1-----1,2,4-Trichlorobenzene	380	U
91-20-3-----Naphthalene	380	U
106-47-8-----4-Chloroaniline	380	U
87-68-3-----Hexachlorobutadiene	380	U
59-50-7-----4-Chloro-3-methylphenol	260	J
91-57-6-----2-Methylnaphthalene	380	U
77-47-4-----Hexachlorocyclopentadiene	380	U
88-06-2-----2,4,6-Trichlorophenol	380	U
95-95-4-----2,4,5-Trichlorophenol	960	U
91-58-7-----2-Chloronaphthalene	380	U
88-74-4-----2-Nitroaniline	960	U
131-11-3-----Dimethylphthalate	80	J
208-96-8-----Acenaphthylene	380	U
606-20-2-----2,6-Dinitrotoluene	380	U
99-09-2-----3-Nitroaniline	960	U
83-32-9-----Acenaphthene	380	U

FORM I SV-1

CR 9-14-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP419

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950232

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050232B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 14 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

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

51-28-5-----2,4-Dinitrophenol	960	U
100-02-7-----4-Nitrophenol	960	U
132-64-9-----Dibenzofuran	380	U
121-14-2-----2,4-Dinitrotoluene	380	U
84-66-2-----Diethylphthalate	380	U
7005-72-3-----4-Chlorophenyl-phenylether	380	U
86-73-7-----Fluorene	380	U
100-01-6-----4-Nitroaniline	960	U
534-52-1-----4,6-Dinitro-2-methylphenol	960	U
86-30-6-----N-nitrosodiphenylamine (1)	380	U
101-55-3-----4-Bromophenyl-phenylether	380	U
118-74-1-----Hexachlorobenzene	380	U
87-86-5-----Pentachlorophenol	960	U J
85-01-8-----Phenanthrene	380	U
120-12-7-----Anthracene	380	U
86-74-8-----Carbazole	380	U
84-74-2-----Di-n-butylphthalate	380	U
206-44-0-----Fluoranthene	380	U
129-00-0-----Pyrene	380	U
85-68-7-----Butylbenzylphthalate	380	U
91-94-1-----3,3'-Dichlorobenzidine	380	U
56-55-3-----Benzo (a) anthracene	380	U
218-01-9-----Chrysene	380	U
117-81-7-----bis(2-Ethylhexyl)phthalate	43	J
117-84-0-----Di-n-octylphthalate	380	U
205-99-2-----Benzo (b) fluoranthene	380	U
207-08-9-----Benzo (k) fluoranthene	380	U
50-32-8-----Benzo (a) pyrene	380	U
193-39-5-----Indeno (1,2,3-cd) pyrene	380	U
53-70-3-----Dibenzo (a,h) anthracene	380	U
191-24-2-----Benzo (g,h,i) perylene	380	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP
9-14-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP419

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950232

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050232B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 14 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

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

Number TICs found: 10

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	UNKNOWN Lab Cont.	6.79	170	J R
2.	UNKNOWN	9.79	95	J N
3.	UNKNOWN	10.72	180	J
4.	UNKNOWN	10.94	110	J
5.	UNKNOWN	14.78	88	J
6.	UNKNOWN	15.15	4000	J
7.	UNKNOWN AMIDE	17.16	150	J
8.	UNKNOWN ALCOHOL	17.87	95	J
9.	UNKNOWN	19.54	88	J
10.	UNKNOWN	22.11	82	J ↓
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-14-99

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP420

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950233

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050233B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 6 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

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

108-95-2-----Phenol	350	U
111-44-4-----bis(2-Chloroethyl) ether	350	U
95-57-8-----2-Chlorophenol	350	U
541-73-1-----1,3-Dichlorobenzene	350	U
106-46-7-----1,4-Dichlorobenzene	350	U
95-50-1-----1,2-Dichlorobenzene	350	U
95-48-7-----2-Methylphenol	350	U
108-60-1-----2,2'-oxybis(1-Chloropropane)	350	U
106-44-5-----4-Methylphenol	350	U
621-64-7-----N-Nitroso-di-n-propylamine	350	U
67-72-1-----Hexachloroethane	350	U
98-95-3-----Nitrobenzene	350	U
78-59-1-----Isophorone	350	U
88-75-5-----2-Nitrophenol	350	U
105-67-9-----2,4-Dimethylphenol	350	U
111-91-1-----bis(2-Chloroethoxy) methane	350	U
120-83-2-----2,4-Dichlorophenol	350	U
120-82-1-----1,2,4-Trichlorobenzene	350	U
91-20-3-----Naphthalene	350	U
106-47-8-----4-Chloroaniline	350	U
87-68-3-----Hexachlorobutadiene	350	U
59-50-7-----4-Chloro-3-methylphenol	350	U
91-57-6-----2-Methylnaphthalene	350	U
77-47-4-----Hexachlorocyclopentadiene	350	U
88-06-2-----2,4,6-Trichlorophenol	350	U
95-95-4-----2,4,5-Trichlorophenol	880	U
91-58-7-----2-Chloronaphthalene	350	U
88-74-4-----2-Nitroaniline	880	U
131-11-3-----Dimethylphthalate	350	U
208-96-8-----Acenaphthylene	350	U
606-20-2-----2,6-Dinitrotoluene	350	U
99-09-2-----3-Nitroaniline	880	U
83-32-9-----Acenaphthene	350	U

FORM I SV-1

CP 9-14-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP420

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950233

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050233B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 6 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

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

51-28-5-----	2,4-Dinitrophenol	880	U
100-02-7-----	4-Nitrophenol	880	U
132-64-9-----	Dibenzofuran	350	U
121-14-2-----	2,4-Dinitrotoluene	350	U
84-66-2-----	Diethylphthalate	350	U
7005-72-3-----	4-Chlorophenyl-phenylether	350	U
86-73-7-----	Fluorene	350	U
100-01-6-----	4-Nitroaniline	880	U
534-52-1-----	4,6-Dinitro-2-methylphenol	880	U
86-30-6-----	N-nitrosodiphenylamine (1)	350	U
101-55-3-----	4-Bromophenyl-phenylether	350	U
118-74-1-----	Hexachlorobenzene	350	U
87-86-5-----	Pentachlorophenol	880	UJ
85-01-8-----	Phenanthrene	350	U
120-12-7-----	Anthracene	350	U
86-74-8-----	Carbazole	350	U
84-74-2-----	Di-n-butylphthalate	350	U
206-44-0-----	Fluoranthene	350	U
129-00-0-----	Pyrene	350	U
85-68-7-----	Butylbenzylphthalate	350	U
91-94-1-----	3,3'-Dichlorobenzidine	350	U
56-55-3-----	Benzo(a)anthracene	350	U
218-01-9-----	Chrysene	350	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	64	J
117-84-0-----	Di-n-octylphthalate	350	U
205-99-2-----	Benzo(b)fluoranthene	350	U
207-08-9-----	Benzo(k)fluoranthene	350	U
50-32-8-----	Benzo(a)pyrene	350	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	350	U
53-70-3-----	Dibenzo(a,h)anthracene	350	U
191-24-2-----	Benzo(g,h,i)perylene	350	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP
9-14-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP420

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950233

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050233B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 6 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.3

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN (BC) Lab Cont.	6.78	160	JB R
2. 95-16-9	BENZOTHAZOLE	9.23	200	NJ
3.	UNKNOWN	15.40	1000	JN
4.	UNKNOWN	15.99	100	J
5.	UNKNOWN	16.02	110	J
6.	UNKNOWN	16.17	110	J
7.	UNKNOWN	16.28	93	J
8.	UNKNOWN	16.58	110	J
9.	UNKNOWN	16.85	130	J
10.	UNKNOWN AMIDE	17.15	120	J
11.	UNKNOWN	18.07	110	J
12.	UNKNOWN	18.17	100	J
13.	UNKNOWN	18.20	96	J
14.	UNKNOWN PHTHALATE	18.25	220	J
15.	UNKNOWN PHTHALATE	18.49	130	J
16.	UNKNOWN PHTHALATE	18.57	220	J
17.	UNKNOWN	22.34	150	J
18.	UNKNOWN	23.08	160	J
19.	UNKNOWN	23.57	280	J
20.	UNKNOWN	25.82	330	J
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-14-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP421

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950234

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050234B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 8 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.2

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

108-95-2-----	Phenol	360	U
111-44-4-----	bis(2-Chloroethyl) ether	360	U
95-57-8-----	2-Chlorophenol	360	U
541-73-1-----	1,3-Dichlorobenzene	360	U
106-46-7-----	1,4-Dichlorobenzene	360	U
95-50-1-----	1,2-Dichlorobenzene	360	U
95-48-7-----	2-Methylphenol	360	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	360	U
106-44-5-----	4-Methylphenol	360	U
621-64-7-----	N-Nitroso-di-n-propylamine	360	U
67-72-1-----	Hexachloroethane	360	U
98-95-3-----	Nitrobenzene	360	U
78-59-1-----	Isophorone	360	U
88-75-5-----	2-Nitrophenol	360	U
105-67-9-----	2,4-Dimethylphenol	360	U
111-91-1-----	bis(2-Chloroethoxy) methane	360	U
120-83-2-----	2,4-Dichlorophenol	360	U
120-82-1-----	1,2,4-Trichlorobenzene	360	U
91-20-3-----	Naphthalene	360	U
106-47-8-----	4-Chloroaniline	360	U
87-68-3-----	Hexachlorobutadiene	360	U
59-50-7-----	4-Chloro-3-methylphenol	360	U
91-57-6-----	2-Methylnaphthalene	360	U
77-47-4-----	Hexachlorocyclopentadiene	360	U
88-06-2-----	2,4,6-Trichlorophenol	360	U
95-95-4-----	2,4,5-Trichlorophenol	900	U
91-58-7-----	2-Chloronaphthalene	360	U
88-74-4-----	2-Nitroaniline	900	U
131-11-3-----	Dimethylphthalate	360	U
208-96-8-----	Acenaphthylene	360	U
606-20-2-----	2,6-Dinitrotoluene	360	U
99-09-2-----	3-Nitroaniline	900	U
83-32-9-----	Acenaphthene	360	U

FORM I SV-1

CP
9-14-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP421

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950234

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050234B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 8 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.2

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

51-28-5-----	2,4-Dinitrophenol	900	U
100-02-7-----	4-Nitrophenol	900	U
132-64-9-----	Dibenzofuran	360	U
121-14-2-----	2,4-Dinitrotoluene	360	U
84-66-2-----	Diethylphthalate	360	U
7005-72-3-----	4-Chlorophenyl-phenylether	360	U
86-73-7-----	Fluorene	360	U
100-01-6-----	4-Nitroaniline	900	U
534-52-1-----	4,6-Dinitro-2-methylphenol	900	U
86-30-6-----	N-nitrosodiphenylamine (1)	360	U
101-55-3-----	4-Bromophenyl-phenylether	360	U
118-74-1-----	Hexachlorobenzene	360	U
87-86-5-----	Pentachlorophenol	900	UJ
85-01-8-----	Phenanthrene	360	U
120-12-7-----	Anthracene	360	U
86-74-8-----	Carbazole	360	U
84-74-2-----	Di-n-butylphthalate	360	U
206-44-0-----	Fluoranthene	360	U
129-00-0-----	Pyrene	360	U
85-68-7-----	Butylbenzylphthalate	360	U
91-94-1-----	3,3'-Dichlorobenzidine	360	U
56-55-3-----	Benzo(a)anthracene	360	U
218-01-9-----	Chrysene	360	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	360	U
117-84-0-----	Di-n-octylphthalate	360	U
205-99-2-----	Benzo(b)fluoranthene	360	U
207-08-9-----	Benzo(k)fluoranthene	360	U
50-32-8-----	Benzo(a)pyrene	360	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	360	U
53-70-3-----	Dibenzo(a,h)anthracene	360	U
191-24-2-----	Benzo(g,h,i)perylene	360	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP 9-14-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP421

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950234

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050234B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 8 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.2

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

Number TICs found: 23

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN (PC) Lab Cont.	6.78	130	JB R
2.	UNKNOWN	7.30	85	JN
3.	UNKNOWN	10.73	230	J
4.	UNKNOWN	10.87	170	J
5.	UNKNOWN	15.82	280	J
6.	DDD/DDT	16.78	160	J
7.	UNKNOWN	16.98	140	J
8.	UNKNOWN	17.81	170	J
9.	UNKNOWN	19.55	280	J
10.	UNKNOWN	19.77	320	J
11.	UNKNOWN	20.04	200	J
12.	UNKNOWN	20.19	210	J
13.	UNKNOWN	20.82	270	J
14.	UNKNOWN	22.12	270	J
15.	UNKNOWN	22.26	200	J
16.	UNKNOWN	22.34	350	J
17.	UNKNOWN	23.07	160	J
18.	UNKNOWN	23.59	200	J
19.	UNKNOWN	23.86	230	J
20.	UNKNOWN	25.23	190	J
21.	UNKNOWN	25.60	250	J
22.	UNKNOWN	25.72	250	J
23.	UNKNOWN	25.82	160	J✓
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP422

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950235

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050235B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 15 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

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

108-95-2-----	Phenol	390	U
111-44-4-----	bis(2-Chloroethyl) ether	390	U
95-57-8-----	2-Chlorophenol	390	U
541-73-1-----	1,3-Dichlorobenzene	390	U
106-46-7-----	1,4-Dichlorobenzene	390	U
95-50-1-----	1,2-Dichlorobenzene	390	U
95-48-7-----	2-Methylphenol	390	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	390	U
106-44-5-----	4-Methylphenol	390	U
621-64-7-----	N-Nitroso-di-n-propylamine	390	U
67-72-1-----	Hexachloroethane	390	U
98-95-3-----	Nitrobenzene	390	U
78-59-1-----	Isophorone	390	U
88-75-5-----	2-Nitrophenol	390	U
105-67-9-----	2,4-Dimethylphenol	390	U
111-91-1-----	bis(2-Chloroethoxy) methane	390	U
120-83-2-----	2,4-Dichlorophenol	390	U
120-82-1-----	1,2,4-Trichlorobenzene	390	U
91-20-3-----	Naphthalene	390	U
106-47-8-----	4-Chloroaniline	390	U
87-68-3-----	Hexachlorobutadiene	390	U
59-50-7-----	4-Chloro-3-methylphenol	390	U
91-57-6-----	2-Methylnaphthalene	390	U
77-47-4-----	Hexachlorocyclopentadiene	390	U
88-06-2-----	2,4,6-Trichlorophenol	390	U
95-95-4-----	2,4,5-Trichlorophenol	980	U
91-58-7-----	2-Chloronaphthalene	390	U
88-74-4-----	2-Nitroaniline	980	U
131-11-3-----	Dimethylphthalate	390	U
208-96-8-----	Acenaphthylene	390	U
606-20-2-----	2,6-Dinitrotoluene	390	U
99-09-2-----	3-Nitroaniline	980	U
83-32-9-----	Acenaphthene	390	U

FORM I SV-1

CP
9-14-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP422

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950235

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050235B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 15 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

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

51-28-5-----	2,4-Dinitrophenol	980	U
100-02-7-----	4-Nitrophenol	980	U
132-64-9-----	Dibenzofuran	390	U
121-14-2-----	2,4-Dinitrotoluene	390	U
84-66-2-----	Diethylphthalate	390	U
7005-72-3-----	4-Chlorophenyl-phenylether	390	U
86-73-7-----	Fluorene	390	U
100-01-6-----	4-Nitroaniline	980	U
534-52-1-----	4,6-Dinitro-2-methylphenol	980	U
86-30-6-----	N-nitrosodiphenylamine (1)	390	U
101-55-3-----	4-Bromophenyl-phenylether	390	U
118-74-1-----	Hexachlorobenzene	390	U
87-86-5-----	Pentachlorophenol	980	UJ
85-01-8-----	Phenanthrene	390	U
120-12-7-----	Anthracene	390	U
86-74-8-----	Carbazole	390	U
84-74-2-----	Di-n-butylphthalate	390	U
206-44-0-----	Fluoranthene	390	U
129-00-0-----	Pyrene	390	U
85-68-7-----	Butylbenzylphthalate	390	U
91-94-1-----	3,3'-Dichlorobenzidine	390	U
56-55-3-----	Benzo(a)anthracene	390	U
218-01-9-----	Chrysene	390	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	2400	
117-84-0-----	Di-n-octylphthalate	390	U
205-99-2-----	Benzo(b)fluoranthene	390	U
207-08-9-----	Benzo(k)fluoranthene	390	U
50-32-8-----	Benzo(a)pyrene	390	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	390	U
53-70-3-----	Dibenzo(a,h)anthracene	390	U
191-24-2-----	Benzo(g,h,i)perylene	390	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP422

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950235

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GH050235B70

Level: (low/med) LOW

Date Received: 07/10/99

% Moisture: 15 decanted: (Y/N) N

Date Extracted: 07/12/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/15/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.3

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN (BC) Lab Conf.	6.78	100	JB-R
2.	UNKNOWN AMIDE	17.15	140	JN
3.	UNKNOWN	25.35	130	JN
4.	UNKNOWN	25.72	92	JN
5.	UNKNOWN	25.80	97	JN
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 9-14-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP428

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950544

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GR050544B70

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/29/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/31/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

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

108-95-2	Phenol	350	UJ
111-44-4	bis(2-Chloroethyl) ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
95-50-1	1,2-Dichlorobenzene	350	U
95-48-7	2-Methylphenol	350	U
108-60-1	2,2'-oxybis(1-Chloropropane)	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	N-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	180	J
106-47-8	4-Chloroaniline	350	UJ
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	750	J
77-47-4	Hexachlorocyclopentadiene	350	UJ
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	890	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	890	U
131-11-3	Dimethylphthalate	350	U
208-96-8	Acenaphthylene	350	U
606-20-2	2,6-Dinitrotoluene	350	U
99-09-2	3-Nitroaniline	890	U
83-32-9	Acenaphthene	350	U

FORM I SV-1

CP
9-14-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP428

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950544

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GR050544B70

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/29/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/31/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.6

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

CAS NO.

COMPOUND

Q

51-28-5	2,4-Dinitrophenol	890	U J
100-02-7	4-Nitrophenol	890	U
132-64-9	Dibenzofuran	350	U
121-14-2	2,4-Dinitrotoluene	350	U
84-66-2	Diethylphthalate	350	U
7005-72-3	4-Chlorophenyl-phenylether	350	U
86-73-7	Fluorene	350	U
100-01-6	4-Nitroaniline	890	U
534-52-1	4,6-Dinitro-2-methylphenol	890	U
86-30-6	N-nitrosodiphenylamine (1)	350	U
101-55-3	4-Bromophenyl-phenylether	350	U
118-74-1	Hexachlorobenzene	350	U
87-86-5	Pentachlorophenol	890	U J
85-01-8	Phenanthrene	350	U
120-12-7	Anthracene	350	U
86-74-8	Carbazole	350	U
84-74-2	Di-n-butylphthalate	350	U
206-44-0	Fluoranthene	350	U
129-00-0	Pyrene	49	J
85-68-7	Butylbenzylphthalate	350	U
91-94-1	3,3'-Dichlorobenzidine	350	U
56-55-3	Benzo (a) anthracene	350	U
218-01-9	Chrysene	350	U
117-81-7	bis(2-Ethylhexyl)phthalate	350	U
117-84-0	Di-n-octylphthalate	350	U
205-99-2	Benzo (b) fluoranthene	350	U
207-08-9	Benzo (k) fluoranthene	350	U
50-32-8	Benzo (a) pyrene	350	U
193-39-5	Indeno (1,2,3-cd) pyrene	350	U
53-70-3	Dibenzo (a,h) anthracene	350	U
191-24-2	Benzo (g,h,i) perylene	350	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP428

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950544

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: GR050544B70

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: 7 decanted: (Y/N) N

Date Extracted: 07/29/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/31/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.6

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

Number TICs found: 30

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	16.73	980	J ✓
2.	UNKNOWN	17.29	960	J
3.	UNKNOWN	17.59	890	J
4.	UNKNOWN PHTHALATE	17.76	830	J
5.	UNKNOWN	17.83	1100	J
6.	UNKNOWN	17.98	880	J
7.	UNKNOWN	18.06	1600	J
8.	UNKNOWN	18.16	900	J
9.	UNKNOWN	18.25	1100	J
10.	UNKNOWN	18.45	1300	J
11.	UNKNOWN	18.52	1700	J
12.	UNKNOWN	18.65	1100	J
13.	UNKNOWN	18.79	870	J
14.	UNKNOWN	18.86	830	J
15.	UNKNOWN	18.99	1300	J
16.	UNKNOWN	19.03	990	J
17.	UNKNOWN	19.20	1000	J
18.	UNKNOWN	19.42	910	J
19.	UNKNOWN	19.45	630	J
20.	UNKNOWN	19.52	860	J
21.	UNKNOWN	19.67	1400	J
22.	UNKNOWN	19.99	660	J
23.	UNKNOWN	20.11	500	J
24.	UNKNOWN	20.18	830	J
25.	UNKNOWN	20.38	590	J
26.	UNKNOWN	20.61	1100	J
27.	UNKNOWN	20.92	880	J
28.	UNKNOWN	21.07	650	J
29.	UNKNOWN	21.29	590	J
30.	UNKNOWN	21.93	510	J ✓

FORM I SV-TIC

CP 9-14-99
OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP429

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950545

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: GH050545A66

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: 23 decanted: (Y/N) N

Date Extracted: 07/16/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND	Q
108-95-2	Phenol	420 U
111-44-4	bis(2-Chloroethyl) ether	420 U
95-57-8	2-Chlorophenol	420 U
541-73-1	1,3-Dichlorobenzene	420 U
106-46-7	1,4-Dichlorobenzene	420 U
95-50-1	1,2-Dichlorobenzene	420 U
95-48-7	2-Methylphenol	420 U
108-60-1	2,2'-oxybis(1-Chloropropane)	420 U
106-44-5	4-Methylphenol	420 U
621-64-7	N-Nitroso-di-n-propylamine	420 U
67-72-1	Hexachloroethane	420 U
98-95-3	Nitrobenzene	420 U
78-59-1	Isophorone	420 U
88-75-5	2-Nitrophenol	420 U
105-67-9	2,4-Dimethylphenol	420 U
111-91-1	bis(2-Chloroethoxy) methane	420 U
120-83-2	2,4-Dichlorophenol	420 U
120-82-1	1,2,4-Trichlorobenzene	420 U
91-20-3	Naphthalene	120 J
106-47-8	4-Chloroaniline	420 U
87-68-3	Hexachlorobutadiene	420 U
59-50-7	4-Chloro-3-methylphenol	420 U
91-57-6	2-Methylnaphthalene	160 J
77-47-4	Hexachlorocyclopentadiene	420 U
88-06-2	2,4,6-Trichlorophenol	420 U
95-95-4	2,4,5-Trichlorophenol	1100 U
91-58-7	2-Chloronaphthalene	420 U
88-74-4	2-Nitroaniline	1100 U
131-11-3	Dimethylphthalate	420 U
208-96-8	Acenaphthylene	420 U
606-20-2	2,6-Dinitrotoluene	420 U
99-09-2	3-Nitroaniline	1100 U
83-32-9	Acenaphthene	420 U

FORM I SV-1

CP
9-14-99 OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP429

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950545

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: GH050545A66

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: 23 decanted: (Y/N) N

Date Extracted: 07/16/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

CAS NO.	COMPOUND	Q
51-28-5	2,4-Dinitrophenol	1100 U
100-02-7	4-Nitrophenol	1100 U
132-64-9	Dibenzofuran	420 U
121-14-2	2,4-Dinitrotoluene	420 U
84-66-2	Diethylphthalate	420 U
7005-72-3	4-Chlorophenyl-phenylether	420 U
86-73-7	Fluorene	420 U
100-01-6	4-Nitroaniline	1100 U
534-52-1	4,6-Dinitro-2-methylphenol	1100 U
86-30-6	N-nitrosodiphenylamine (1)	420 U
101-55-3	4-Bromophenyl-phenylether	420 U
118-74-1	Hexachlorobenzene	420 U
87-86-5	Pentachlorophenol	1100 U
85-01-8	Phenanthrene	420 U
120-12-7	Anthracene	420 U
86-74-8	Carbazole	420 U
84-74-2	Di-n-butylphthalate	420 U
206-44-0	Fluoranthene	420 U
129-00-0	Pyrene	97 J
85-68-7	Butylbenzylphthalate	420 U
91-94-1	3,3'-Dichlorobenzidine	420 UJ
56-55-3	Benzo(a)anthracene	420 U
218-01-9	Chrysene	88 J
117-81-7	bis(2-Ethylhexyl)phthalate	540
117-84-0	Di-n-octylphthalate	420 U
205-99-2	Benzo(b)fluoranthene	420 U
207-08-9	Benzo(k)fluoranthene	420 U
50-32-8	Benzo(a)pyrene	70 J
193-39-5	Indeno(1,2,3-cd)pyrene	420 U
53-70-3	Dibenzo(a,h)anthracene	420 U
191-24-2	Benzo(g,h,i)perylene	420 U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

CP 9-14-99
OLM03.0

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JP429

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950545

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: GH050545A66

Level: (low/med) LOW

Date Received: 07/14/99

% Moisture: 23 decanted: (Y/N) N

Date Extracted: 07/16/99

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 07/27/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

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

Number TICs found: 22

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ETHYLMETHYLBENZENE	5.10	710	J✓
2.	UNKNOWN	15.57	1300	J
3.	UNKNOWN	15.97	560	J
4.	UNKNOWN	18.44	1200	J
5.	UNKNOWN	19.28	450	J
6.	UNKNOWN	19.85	640	J
7.	UNKNOWN	20.51	660	J
8.	UNKNOWN	20.55	590	J
9.	UNKNOWN	20.69	1100	J
10.	UNKNOWN	20.92	1100	J
11.	UNKNOWN	21.04	1100	J
12.	UNKNOWN	21.27	1200	J
13.	UNKNOWN	21.35	1200	J
14.	UNKNOWN	21.46	590	J
15.	UNKNOWN	21.76	500	J
16.	UNKNOWN	21.86	1100	J
17.	UNKNOWN	22.04	580	J
18.	UNKNOWN	22.74	600	J
19.	UNKNOWN	23.09	690	J
20.	UNKNOWN	23.58	500	J
21.	UNKNOWN	23.79	470	J
22.	UNKNOWN	26.21	490	J✓
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I SV-TIC

CP 4-14-99
OLM03.0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP410

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 949999

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 9 decanted: (Y/N) N

Date Received: 07/09/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/11/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	1.9 1.2	JPBU
319-86-8	delta-BHC	1.9	U
58-89-9	gamma-BHC (Lindane)	1.9 0.82	JPBU
76-44-8	Heptachlor	1.9	U
309-00-2	Aldrin	1.9 0.68	JPBU
1024-57-3	Heptachlor epoxide	1.9 0.26	JPBU
959-98-8	Endosulfan I	1.9 0.32	JPBU
60-57-1	Dieldrin	3.6 1.1	JPBU
72-55-9	4,4'-DDE	54	U
72-20-8	Endrin	3.6	U
33213-65-9	Endosulfan II	3.6	U
72-54-8	4,4'-DDD	57	U
1031-07-8	Endosulfan sulfate	3.6 0.74	JPBU
50-29-3	4,4'-DDT	2.2	JPBU
72-43-5	Methoxychlor	1.9 4.1	JPBU
53494-70-5	Endrin ketone	3.6 1.1	JPBU
7421-93-4	Endrin aldehyde	3.6 1.4	JPBU
5103-71-9	alpha-Chlordane	1.9	U
5103-74-2	gamma-Chlordane	1.9 1.5	JPBU
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	74	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U

CP 9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP410DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 949999

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 9 decanted: (Y/N) N

Date Received: 07/09/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/09/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/19/99

Injection Volume: 2.0 (uL)

Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 8.0

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	3.7	U
319-85-7	beta-BHC	3.7 2.5	DJPBU
319-86-8	delta-BHC	3.7	U
58-89-9	gamma-BHC (Lindane)	3.7 1.5	DJPBU
76-44-8	Heptachlor	3.7	U
309-00-2	Aldrin	3.7 1.1	DJPBU
1024-57-3	Heptachlor epoxide	3.7	U
959-98-8	Endosulfan I	3.7	U
60-57-1	Dieldrin	7.2 0.42	DJPBU
72-55-9	4,4'-DDE	46	DB
72-20-8	Endrin	7.2	U
33213-65-9	Endosulfan II	7.2	U
72-54-8	4,4'-DDD	44	DB
1031-07-8	Endosulfan sulfate	7.2 0.91	DJPBU
50-29-3	4,4'-DDT	7.2 2.0	DJPBU
72-43-5	Methoxychlor	3.7 1.7	DJPBU
53494-70-5	Endrin ketone	7.2	U
7421-93-4	Endrin aldehyde	7.2 1.0	DJPBU
5103-71-9	alpha-Chlordane	3.7 0.26	DJPBU
5103-74-2	gamma-Chlordane	3.7 0.44	DJPBU
8001-35-2	Toxaphene	370	U
12674-11-2	Aroclor-1016	72	U
11104-28-2	Aroclor-1221	150	U
11141-16-5	Aroclor-1232	72	U
53469-21-9	Aroclor-1242	72	U
12672-29-6	Aroclor-1248	72	U
11097-69-1	Aroclor-1254	72	U
11096-82-5	Aroclor-1260	72	U

CP 9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP418

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950231

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 11 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.1

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

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

Q

319-84-6-----	alpha-BHC	1.9	U
319-85-7-----	beta-BHC	1.9	U
319-86-8-----	delta-BHC	1.9	U
58-89-9-----	gamma-BHC (Lindane)	1.9	U
76-44-8-----	Heptachlor	1.9	U
309-00-2-----	Aldrin	1.9	U
1024-57-3-----	Heptachlor epoxide	1.9	U
959-98-8-----	Endosulfan I	1.9	U
60-57-1-----	Dieldrin	3.7 1.9 0.21	JU
72-55-9-----	4,4'-DDE	4.8	
72-20-8-----	Endrin	3.7 0.16	JP4
33213-65-9-----	Endosulfan II	3.7	U
72-54-8-----	4,4'-DDD	3.2	JP
1031-07-8-----	Endosulfan sulfate	3.7	U
50-29-3-----	4,4'-DDT	0.89	JPB
72-43-5-----	Methoxychlor	19	U
53494-70-5-----	Endrin ketone	3.7 0.14	JP4
7421-93-4-----	Endrin aldehyde	3.7	U
5103-71-9-----	alpha-Chlordane	1.9	U
5103-74-2-----	gamma-Chlordane	1.9 0.12	JP4
8001-35-2-----	Toxaphene	190	U
12674-11-2-----	Aroclor-1016	37	U
11104-28-2-----	Aroclor-1221	75	U
11141-16-5-----	Aroclor-1232	37	U
53469-21-9-----	Aroclor-1242	37	U
12672-29-6-----	Aroclor-1248	37	U
11097-69-1-----	Aroclor-1254	37	U
11096-82-5-----	Aroclor-1260	37	U

CP
9-15-99

FORM I PEST

OLM03.0

1217

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP420

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950233

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 6 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.3

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	2.3	PT
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5 0.13	JP4
72-55-9	4,4'-DDE	6.9	
72-20-8	Endrin	3.5 0.20	JP4
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	2.7	JB
1031-07-8	Endosulfan sulfate	3.5 0.19	JP4
50-29-3	4,4'-DDT	2.6	JB
72-43-5	Methoxychlor	18 0.36	JP4
53494-70-5	Endrin ketone	3.5	U
7421-93-4	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	71	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

CP 4-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP421

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950234

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 8 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 6.2

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

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

Q

319-84-6-----	alpha-BHC	3.7	U
319-85-7-----	beta-BHC	3.7 0.66	JP U
319-86-8-----	delta-BHC	3.7 0.34	JP U
58-89-9-----	gamma-BHC (Lindane)	3.7	U
76-44-8-----	Heptachlor	3.7	U
309-00-2-----	Aldrin	3.7	U
1024-57-3-----	Heptachlor epoxide	3.7 0.19	JPB U
959-98-8-----	Endosulfan I	3.7	U
60-57-1-----	Dieldrin	7.2 3.7 0.66	JP U
72-55-9-----	4,4'-DDE	24	
72-20-8-----	Endrin	7.2	U
33213-65-9-----	Endosulfan II	7.2	U
72-54-8-----	4,4'-DDD	90	B
1031-07-8-----	Endosulfan sulfate	7.2 1.6	JP U
50-29-3-----	4,4'-DDT	7.2 3.4	JPB U
72-43-5-----	Methoxychlor	3.7 4.0	JP U
53494-70-5-----	Endrin ketone	7.2	U
7421-93-4-----	Endrin aldehyde	7.2	U
5103-71-9-----	alpha-Chlordane	3.7	U
5103-74-2-----	gamma-Chlordane	2.4	J
8001-35-2-----	Toxaphene	370	U
12674-11-2-----	Aroclor-1016	72	U
11104-28-2-----	Aroclor-1221	140	U
11141-16-5-----	Aroclor-1232	72	U
53469-21-9-----	Aroclor-1242	72	U
12672-29-6-----	Aroclor-1248	72	U
11097-69-1-----	Aroclor-1254	72	U
11096-82-5-----	Aroclor-1260	72	U

CP
9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP422

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950235

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 15 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	2.0	U
319-85-7-----	beta-BHC	2.0	U
319-86-8-----	delta-BHC	2.0	U
58-89-9-----	gamma-BHC (Lindane)	2.0	U
76-44-8-----	Heptachlor	2.0	U
309-00-2-----	Aldrin	2.0	U
1024-57-3-----	Heptachlor epoxide	2.0	U
959-98-8-----	Endosulfan I	2.0	U
60-57-1-----	Dieldrin	3.9	U
72-55-9-----	4,4'-DDE	3.9	U
72-20-8-----	Endrin	3.9	U
33213-65-9-----	Endosulfan II	3.9	U
72-54-8-----	4,4'-DDD	3.9	U
1031-07-8-----	Endosulfan sulfate	3.9	U
50-29-3-----	4,4'-DDT	3.9	U
72-43-5-----	Methoxychlor	20	U
53494-70-5-----	Endrin ketone	3.9	U
7421-93-4-----	Endrin aldehyde	3.9	U
5103-71-9-----	alpha-Chlordane	2.0	U
5103-74-2-----	gamma-Chlordane	2.0	U
8001-35-2-----	Toxaphene	200	U
12674-11-2-----	Aroclor-1016	39	U
11104-28-2-----	Aroclor-1221	79	U
11141-16-5-----	Aroclor-1232	39	U
53469-21-9-----	Aroclor-1242	39	U
12672-29-6-----	Aroclor-1248	39	U
11097-69-1-----	Aroclor-1254	39	U
11096-82-5-----	Aroclor-1260	39	U

CP 5-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP428

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950544

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/14/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/16/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/19/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.6

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

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

Q

319-84-6-----	alpha-BHC	1.8	U
319-85-7-----	beta-BHC	1.8	U
319-86-8-----	delta-BHC	1.8	U
58-89-9-----	gamma-BHC (Lindane)	1.8	U
76-44-8-----	Heptachlor	1.8	U
309-00-2-----	Aldrin	1.8	U
1024-57-3-----	Heptachlor epoxide	1.8	U
959-98-8-----	Endosulfan I	1.8	U
60-57-1-----	Dieldrin	3.5 0.44	JP U
72-55-9-----	4,4'-DDE	12	B
72-20-8-----	Endrin	3.5 0.57	JP U
33213-65-9-----	Endosulfan II	3.5	U
72-54-8-----	4,4'-DDD	16	B
1031-07-8-----	Endosulfan sulfate	3.5	U
50-29-3-----	4,4'-DDT	3.5 1.6	JP U
72-43-5-----	Methoxychlor	18 3.2	JP U
53494-70-5-----	Endrin ketone	3.5 0.40	JP U
7421-93-4-----	Endrin aldehyde	3.5	U
5103-71-9-----	alpha-Chlordane	1.8 0.32	JP U
5103-74-2-----	gamma-Chlordane	0.60	JP
8001-35-2-----	Toxaphene	180	U
12674-11-2-----	Aroclor-1016	35	U
11104-28-2-----	Aroclor-1221	72	U
11141-16-5-----	Aroclor-1232	35	U
53469-21-9-----	Aroclor-1242	35	U
12672-29-6-----	Aroclor-1248	35	U
11097-69-1-----	Aroclor-1254	35	U
11096-82-5-----	Aroclor-1260	35	U

CP
9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JP429

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950545

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 23 decanted: (Y/N) N

Date Received: 07/14/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/16/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/19/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

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

Sulfur Cleanup: (Y/N) N

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

319-84-6-----alpha-BHC	2.2	U
319-85-7-----beta-BHC	2.2 1.6	U
319-86-8-----delta-BHC	2.2	U
58-89-9-----gamma-BHC (Lindane)	2.2	U
76-44-8-----Heptachlor	2.2	U
309-00-2-----Aldrin	2.2 0.089	JP4
1024-57-3-----Heptachlor epoxide	2.2	U
959-98-8-----Endosulfan I	2.2 0.40	JP4
60-57-1-----Dieldrin	4.3 2.2	JP4
72-55-9-----4,4'-DDE	25	B
72-20-8-----Endrin	4.3	U
33213-65-9-----Endosulfan II	4.3	U
72-54-8-----4,4'-DDD	44	B
1031-07-8-----Endosulfan sulfate	4.3 1.0	JP4
50-29-3-----4,4'-DDT	4.3 1.4	JPBU
72-43-5-----Methoxychlor	22	U
53494-70-5-----Endrin ketone	4.3 0.21	JP4
7421-93-4-----Endrin aldehyde	4.3	U
5103-71-9-----alpha-Chlordane	3.9	U
5103-74-2-----gamma-Chlordane	4.6	PJ
8001-35-2-----Toxaphene	220	U
12674-11-2-----Aroclor-1016	43	U
11104-28-2-----Aroclor-1221	87	U
11141-16-5-----Aroclor-1232	43	U
53469-21-9-----Aroclor-1242	43	U
12672-29-6-----Aroclor-1248	43	U
11097-69-1-----Aroclor-1254	43	U
11096-82-5-----Aroclor-1260	43	U

CP
6-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW585

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950236

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 18 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 6.6

Sulfur Cleanup: (Y/N) N

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	20	U
72-55-9-----	4,4'-DDE	750	ECJ
72-20-8-----	Endrin	20 1.5	JP4
33213-65-9-----	Endosulfan II	20	U
72-54-8-----	4,4'-DDD	12	JPB
1031-07-8-----	Endosulfan sulfate	72	
50-29-3-----	4,4'-DDT	440	ECJ
72-43-5-----	Methoxychlor	100 4.2	JP4
53494-70-5-----	Endrin ketone	20	U
7421-93-4-----	Endrin aldehyde	20	U
5103-71-9-----	alpha-Chlordane	10	U
5103-74-2-----	gamma-Chlordane	10	U
8001-35-2-----	Toxaphene	1000	U
12674-11-2-----	Aroclor-1016	200	U
11104-28-2-----	Aroclor-1221	410	U
11141-16-5-----	Aroclor-1232	200	U
53469-21-9-----	Aroclor-1242	200	U
12672-29-6-----	Aroclor-1248	200	U
11097-69-1-----	Aroclor-1254	200	U
11096-82-5-----	Aroclor-1260	200	U

CP
9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW585DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950236

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 18 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/19/99

Injection Volume: 2.0 (uL)

Dilution Factor: 50.0

GPC Cleanup: (Y/N) Y pH: 6.6

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	100	U
319-85-7	beta-BHC	100	U
319-86-8	delta-BHC	100	U
58-89-9	gamma-BHC (Lindane)	100	U
76-44-8	Heptachlor	100	U
309-00-2	Aldrin	100	U
1024-57-3	Heptachlor epoxide	100	U
959-98-8	Endosulfan I	100	U
60-57-1	Dieldrin	200	U
72-55-9	4,4'-DDE	1000	DC
72-20-8	Endrin	200	U
33213-65-9	Endosulfan II	200	U
72-54-8	4,4'-DDD	200	9-9 DDEBU
1031-07-8	Endosulfan sulfate	75	UJ
50-29-3	4,4'-DDT	470	DPBC
72-43-5	Methoxychlor	1000	U
53494-70-5	Endrin ketone	200	U
7421-93-4	Endrin aldehyde	200	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	100	U
8001-35-2	Toxaphene	10000	U
12674-11-2	Aroclor-1016	2000	U
11104-28-2	Aroclor-1221	4100	U
11141-16-5	Aroclor-1232	2000	U
53469-21-9	Aroclor-1242	2000	U
12672-29-6	Aroclor-1248	2000	U
11097-69-1	Aroclor-1254	2000	U
11096-82-5	Aroclor-1260	2000	U

CP 9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW586

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950237

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 14 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	2.0	U
319-85-7-----	beta-BHC	2.0	U
319-86-8-----	delta-BHC	2.0	U
58-89-9-----	gamma-BHC (Lindane)	2.0	U
76-44-8-----	Heptachlor	2.0	U
309-00-2-----	Aldrin	2.0 0.85	JP U
1024-57-3-----	Heptachlor epoxide	2.0	U
959-98-8-----	Endosulfan I	2.0	U
60-57-1-----	Dieldrin	3.8	U
72-55-9-----	4,4'-DDE	0.45	JP
72-20-8-----	Endrin	3.8 0.14	JP U
33213-65-9-----	Endosulfan II	3.8	U
72-54-8-----	4,4'-DDD	3.8	U
1031-07-8-----	Endosulfan sulfate	3.8	U
50-29-3-----	4,4'-DDT	3.8 0.31	JP U
72-43-5-----	Methoxychlor	20	U
53494-70-5-----	Endrin ketone	3.8	U
7421-93-4-----	Endrin aldehyde	3.8	U
5103-71-9-----	alpha-Chlordane	2.0	U
5103-74-2-----	gamma-Chlordane	2.0	U
8001-35-2-----	Toxaphene	200	U
12674-11-2-----	Aroclor-1016	38	U
11104-28-2-----	Aroclor-1221	78	U
11141-16-5-----	Aroclor-1232	38	U
53469-21-9-----	Aroclor-1242	38	U
12672-29-6-----	Aroclor-1248	38	U
11097-69-1-----	Aroclor-1254	38	U
11096-82-5-----	Aroclor-1260	38	U

CP 9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW587

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950238

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 12 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.2

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	1.9	U
319-85-7-----	beta-BHC	1.9 0.74	JP4
319-86-8-----	delta-BHC	1.9	U
58-89-9-----	gamma-BHC (Lindane)	1.9 0.17	JP4
76-44-8-----	Heptachlor	1.9	U
309-00-2-----	Aldrin	1.9	U
1024-57-3-----	Heptachlor epoxide	1.9 0.14	JPBU
959-98-8-----	Endosulfan I	1.6	J
60-57-1-----	Dieldrin	3.8	U
72-55-9-----	4,4'-DDE	190	EEJ
72-20-8-----	Endrin	3.8	U
33213-65-9-----	Endosulfan II	3.8 1.9	JU
72-54-8-----	4,4'-DDD	3.8	U
1031-07-8-----	Endosulfan sulfate	4.0	PJ
50-29-3-----	4,4'-DDT	62	EBCJ
72-43-5-----	Methoxychlor	19 4.7	JP4
53494-70-5-----	Endrin ketone	3.8 0.34	JP4
7421-93-4-----	Endrin aldehyde	3.8	U
5103-71-9-----	alpha-Chlordane	1.9	U
5103-74-2-----	gamma-Chlordane	1.9	U
8001-35-2-----	Toxaphene	190	U
12674-11-2-----	Aroclor-1016	38	U
11104-28-2-----	Aroclor-1221	76	U
11141-16-5-----	Aroclor-1232	38	U
53469-21-9-----	Aroclor-1242	38	U
12672-29-6-----	Aroclor-1248	38	U
11097-69-1-----	Aroclor-1254	38	U
11096-82-5-----	Aroclor-1260	38	U

CP
9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW587DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950238

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 12 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 6.2

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	19	U
319-85-7-----	beta-BHC	19	U
319-86-8-----	delta-BHC	19	U
58-89-9-----	gamma-BHC (Lindane)	19	U
76-44-8-----	Heptachlor	19	U
309-00-2-----	Aldrin	19	U
1024-57-3-----	Heptachlor epoxide	19	U
959-98-8-----	Endosulfan I	1.4	DJP
60-57-1-----	Dieldrin	38	U
72-55-9-----	4,4'-DDE	290	DC
72-20-8-----	Endrin	38	U
33213-65-9-----	Endosulfan II	38	U
72-54-8-----	4,4'-DDD	38	U
1031-07-8-----	Endosulfan sulfate	5.1	DJP
50-29-3-----	4,4'-DDT	88	DBC
72-43-5-----	Methoxychlor	190	DC
53494-70-5-----	Endrin ketone	38	U
7421-93-4-----	Endrin aldehyde	38	U
5103-71-9-----	alpha-Chlordane	19	U
5103-74-2-----	gamma-Chlordane	19	U
8001-35-2-----	Toxaphene	1900	U
12674-11-2-----	Aroclor-1016	380	U
11104-28-2-----	Aroclor-1221	760	U
11141-16-5-----	Aroclor-1232	380	U
53469-21-9-----	Aroclor-1242	380	U
12672-29-6-----	Aroclor-1248	380	U
11097-69-1-----	Aroclor-1254	380	U
11096-82-5-----	Aroclor-1260	380	U

CP
9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW588

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950239

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 5 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.5

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	0.58	J
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421-93-4	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

FORM I PEST

OLM03.0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW589

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950240

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 0 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

Sulfur Cleanup: (Y/N) N

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

CAS NO. COMPOUND Q

319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7 0.076	JP 4
58-89-9	gamma-BHC (Lindane)	1.7 0.19	JP 4
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	0.26	JP
60-57-1	Dieldrin	3.3 0.25	JP 4
72-55-9	4,4'-DDE	19	
72-20-8	Endrin	3.3 0.26	JP 4
33213-65-9	Endosulfan II	3.3 0.65	JP 4
72-54-8	4,4'-DDD	3.3 0.59	JP 4
1031-07-8	Endosulfan sulfate	0.52	JP
50-29-3	4,4'-DDT	15	B
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3 0.31	JP 4
7421-93-4	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7 3.3 0.47	JP 4
5103-74-2	gamma-Chlordane	0.82	J
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

CP
9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW590

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950241

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 4 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	1.8	U
319-85-7-----	beta-BHC	1.8	U
319-86-8-----	delta-BHC	1.8	U
58-89-9-----	gamma-BHC (Lindane)	1.8	U
76-44-8-----	Heptachlor	1.8	U
309-00-2-----	Aldrin	1.8	U
1024-57-3-----	Heptachlor epoxide	1.8	U
959-98-8-----	Endosulfan I	1.8	U
60-57-1-----	Dieldrin	3.4	U
72-55-9-----	4,4'-DDE	2.6	J
72-20-8-----	Endrin	3.4	JP U
33213-65-9-----	Endosulfan II	3.4	U
72-54-8-----	4,4'-DDD	3.4	JP U
1031-07-8-----	Endosulfan sulfate	3.4	U
50-29-3-----	4,4'-DDT	9.6	U
72-43-5-----	Methoxychlor	18	JP U
53494-70-5-----	Endrin ketone	3.4	U
7421-93-4-----	Endrin aldehyde	3.4	U
5103-71-9-----	alpha-Chlordane	1.8	U
5103-74-2-----	gamma-Chlordane	1.8	U
8001-35-2-----	Toxaphene	180	U
12674-11-2-----	Aroclor-1016	34	U
11104-28-2-----	Aroclor-1221	70	U
11141-16-5-----	Aroclor-1232	34	U
53469-21-9-----	Aroclor-1242	34	U
12672-29-6-----	Aroclor-1248	34	U
11097-69-1-----	Aroclor-1254	34	U
11096-82-5-----	Aroclor-1260	34	U

CP 9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW591

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950242

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 6.5

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	9.1	U
319-85-7-----	beta-BHC	9.1	U
319-86-8-----	delta-BHC	9.1	U
58-89-9-----	gamma-BHC (Lindane)	9.1	U
76-44-8-----	Heptachlor	9.1	U
309-00-2-----	Aldrin	9.1	U
1024-57-3-----	Heptachlor epoxide	9.1	U
959-98-8-----	Endosulfan I	9.1	U
60-57-1-----	Dieldrin	7.3	J
72-55-9-----	4,4'-DDE	1200	EC J
72-20-8-----	Endrin	18	U
33213-65-9-----	Endosulfan II	18	U
72-54-8-----	4,4'-DDD	31	PE J
1031-07-8-----	Endosulfan sulfate	16	J
50-29-3-----	4,4'-DDT	880	EC J
72-43-5-----	Methoxychlor	91	U
53494-70-5-----	Endrin ketone	18	U
7421-93-4-----	Endrin aldehyde	18	U
5103-71-9-----	alpha-Chlordane	9.1	U
5103-74-2-----	gamma-Chlordane	9.1	U
8001-35-2-----	Toxaphene	910	U
12674-11-2-----	Aroclor-1016	180	U
11104-28-2-----	Aroclor-1221	360	U
11141-16-5-----	Aroclor-1232	180	U
53469-21-9-----	Aroclor-1242	180	U
12672-29-6-----	Aroclor-1248	180	U
11097-69-1-----	Aroclor-1254	180	U
11096-82-5-----	Aroclor-1260	180	U

CP 9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW591DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950242

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 50.0

GPC Cleanup: (Y/N) Y pH: 6.5

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	91	U
319-85-7-----	beta-BHC	91	U
319-86-8-----	delta-BHC	91	U
58-89-9-----	gamma-BHC (Lindane)	91	U
76-44-8-----	Heptachlor	91	U
309-00-2-----	Aldrin	91	U
1024-57-3-----	Heptachlor epoxide	91	U
959-98-8-----	Endosulfan I	91	U
60-57-1-----	Dieldrin	180	U
72-55-9-----	4,4'-DDE	1800	De
72-20-8-----	Endrin	180	U
33213-65-9-----	Endosulfan II	180	U
72-54-8-----	4,4'-DDD	32	DJFB
1031-07-8-----	Endosulfan sulfate	16	DJ
50-29-3-----	4,4'-DDT	1200	DBZ
72-43-5-----	Methoxychlor	910	U
53494-70-5-----	Endrin ketone	180	U
7421-93-4-----	Endrin aldehyde	180	U
5103-71-9-----	alpha-Chlordane	91	U
5103-74-2-----	gamma-Chlordane	91	U
8001-35-2-----	Toxaphene	9100	U
12674-11-2-----	Aroclor-1016	1800	U
11104-28-2-----	Aroclor-1221	3600	U
11141-16-5-----	Aroclor-1232	1800	U
53469-21-9-----	Aroclor-1242	1800	U
12672-29-6-----	Aroclor-1248	1800	U
11097-69-1-----	Aroclor-1254	1800	U
11096-82-5-----	Aroclor-1260	1800	U

CP
9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW592

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950243

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 5 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

Sulfur Cleanup: (Y/N) N

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

CAS NO.

COMPOUND

Q

319-84-6	alpha-BHC	1.8	0.12	JU
319-85-7	beta-BHC	1.8	0.42	JP U
319-86-8	delta-BHC		1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	0.087	JP U
76-44-8	Heptachlor		1.8	U
309-00-2	Aldrin		1.8	U
1024-57-3	Heptachlor epoxide		1.8	U
959-98-8	Endosulfan I		1.8	U
60-57-1	Dieldrin		3.5	U
72-55-9	4,4'-DDE		3.0	J
72-20-8	Endrin	3.5	0.38	JP U
33213-65-9	Endosulfan II		3.5	U
72-54-8	4,4'-DDD	3.5	0.65	JP U
1031-07-8	Endosulfan sulfate		0.95	J
50-29-3	4,4'-DDT		1.9	JP
72-43-5	Methoxychlor		18	U
53494-70-5	Endrin ketone		3.5	U
7421-93-4	Endrin aldehyde		3.5	U
5103-71-9	alpha-Chlordane		1.8	U
5103-74-2	gamma-Chlordane		1.8	U
8001-35-2	Toxaphene		180	U
12674-11-2	Aroclor-1016		35	U
11104-28-2	Aroclor-1221		70	U
11141-16-5	Aroclor-1232		35	U
53469-21-9	Aroclor-1242		35	U
12672-29-6	Aroclor-1248		35	U
11097-69-1	Aroclor-1254		35	U
11096-82-5	Aroclor-1260		35	U

CP 9-15-99
5

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW593

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950244

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 9 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 7.2

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	19	U
319-85-7	beta-BHC	19	U
319-86-8	delta-BHC	19	U
58-89-9	gamma-BHC (Lindane)	19	U
76-44-8	Heptachlor	19	U
309-00-2	Aldrin	19	U
1024-57-3	Heptachlor epoxide	19	U
959-98-8	Endosulfan I	19	U
60-57-1	Dieldrin	36	JP U
72-55-9	4,4'-DDE	1600	EE J
72-20-8	Endrin	36	U
33213-65-9	Endosulfan II	36	U
72-54-8	4,4'-DDD	46	PE J
1031-07-8	Endosulfan sulfate	37	PJ
50-29-3	4,4'-DDT	860	EEC J
72-43-5	Methoxychlor	190	25 JU
53494-70-5	Endrin ketone	36	3.0 JP U
7421-93-4	Endrin aldehyde	36	U
5103-71-9	alpha-Chlordane	19	U
5103-74-2	gamma-Chlordane	19	U
8001-35-2	Toxaphene	1900	U
12674-11-2	Aroclor-1016	360	U
11104-28-2	Aroclor-1221	740	U
11141-16-5	Aroclor-1232	360	U
53469-21-9	Aroclor-1242	360	U
12672-29-6	Aroclor-1248	360	U
11097-69-1	Aroclor-1254	360	U
11096-82-5	Aroclor-1260	360	U

UP 9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW593DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950244

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 9 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 50.0

GPC Cleanup: (Y/N) Y

pH: 7.2

Sulfur Cleanup: (Y/N) N

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

CAS NO.

COMPOUND

Q

319-84-6	alpha-BHC	93	U
319-85-7	beta-BHC	93	U
319-86-8	delta-BHC	93	U
58-89-9	gamma-BHC (Lindane)	93	U
76-44-8	Heptachlor	93	U
309-00-2	Aldrin	93	U
1024-57-3	Heptachlor epoxide	93	U
959-98-8	Endosulfan I	93	U
60-57-1	Dieldrin	180	DC
72-55-9	4,4'-DDE	180	U
72-20-8	Endrin	180	U
33213-65-9	Endosulfan II	41	DJPB
72-54-8	4,4'-DDD	35	DJP
1031-07-8	Endosulfan sulfate	970	DEC
50-29-3	4,4'-DDT	930	U
72-43-5	Methoxychlor	180	U
53494-70-5	Endrin ketone	180	U
7421-93-4	Endrin aldehyde	180	U
5103-71-9	alpha-Chlordane	93	U
5103-74-2	gamma-Chlordane	93	U
8001-35-2	Toxaphene	9300	U
12674-11-2	Aroclor-1016	1800	U
11104-28-2	Aroclor-1221	3700	U
11141-16-5	Aroclor-1232	1800	U
53469-21-9	Aroclor-1242	1800	U
12672-29-6	Aroclor-1248	1800	U
11097-69-1	Aroclor-1254	1800	U
11096-82-5	Aroclor-1260	1800	U

180-93 5.8 DJPB

CP
8-9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW594

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950245

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 5 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.8

Sulfur Cleanup: (Y/N) N

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

319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.9	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	5.2	U
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	1.4	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421-93-4	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

CP 9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW595

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950246

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 11 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/20/99

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 6.3

Sulfur Cleanup: (Y/N) N

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

319-84-6-----	alpha-BHC	9.6	U
319-85-7-----	beta-BHC	9.6	U
319-86-8-----	delta-BHC	9.6	U
58-89-9-----	gamma-BHC (Lindane)	9.6	U
76-44-8-----	Heptachlor	9.6	U
309-00-2-----	Aldrin	9.6	U
1024-57-3-----	Heptachlor epoxide	9.6	U
959-98-8-----	Endosulfan I	9.6	U
60-57-1-----	Dieldrin	9.6	U
72-55-9-----	4,4'-DDE	18	JP U
72-20-8-----	Endrin	1000	EE J
33213-65-9-----	Endosulfan II	18	U
72-54-8-----	4,4'-DDD	18	U
1031-07-8-----	Endosulfan sulfate	36	EE J
50-29-3-----	4,4'-DDT	48	U
72-43-5-----	Methoxychlor	430	EE J
53494-70-5-----	Endrin ketone	96	5.1 JP U
7421-93-4-----	Endrin aldehyde	18	U
5103-71-9-----	alpha-Chlordane	18	U
5103-74-2-----	gamma-Chlordane	9.6	U
8001-35-2-----	Toxaphene	9.6	U
12674-11-2-----	Aroclor-1016	960	U
11104-28-2-----	Aroclor-1221	180	U
11141-16-5-----	Aroclor-1232	380	U
53469-21-9-----	Aroclor-1242	180	U
12672-29-6-----	Aroclor-1248	180	U
11097-69-1-----	Aroclor-1254	180	U
11096-82-5-----	Aroclor-1260	180	U

VP
9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW595DL

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950246

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 11 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/19/99

Injection Volume: 2.0 (uL)

Dilution Factor: 50.0

GPC Cleanup: (Y/N) Y pH: 6.3

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

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

Q

319-84-6	alpha-BHC	96	U
319-85-7	beta-BHC	96	U
319-86-8	delta-BHC	96	U
58-89-9	gamma-BHC (Lindane)	96	U
76-44-8	Heptachlor	96	U
309-00-2	Aldrin	96	U
1024-57-3	Heptachlor epoxide	96	U
959-98-8	Endosulfan I	96	U
60-57-1	Dieldrin	180	U
72-55-9	4,4'-DDE	1500	DC
72-20-8	Endrin	180	U
33213-65-9	Endosulfan II	180	U
72-54-8	4,4'-DDD	39	U
1031-07-8	Endosulfan sulfate	52	U
50-29-3	4,4'-DDT	580	DC
72-43-5	Methoxychlor	960	U
53494-70-5	Endrin ketone	180	U
7421-93-4	Endrin aldehyde	180	U
5103-71-9	alpha-Chlordane	96	U
5103-74-2	gamma-Chlordane	96	U
8001-35-2	Toxaphene	9600	U
12674-11-2	Aroclor-1016	1800	U
11104-28-2	Aroclor-1221	3800	U
11141-16-5	Aroclor-1232	1800	U
53469-21-9	Aroclor-1242	1800	U
12672-29-6	Aroclor-1248	1800	U
11097-69-1	Aroclor-1254	1800	U
11096-82-5	Aroclor-1260	1800	U

UP 9-15-99

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM

Contract: 68D50004

JW596

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JP410

Matrix: (soil/water) SOIL

Lab Sample ID: 950248

Sample wt/vol: 30.0 (g/mL) G

Lab File ID:

% Moisture: 5 decanted: (Y/N) N

Date Received: 07/10/99

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 07/13/99

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/18/99

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

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

Q

319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.5	U
72-55-9	4,4'-DDE	2.3	J
72-20-8	Endrin	3.5	U
33213-65-9	Endosulfan II	3.5	U
72-54-8	4,4'-DDD	3.5	U
1031-07-8	Endosulfan sulfate	3.5	U
50-29-3	4,4'-DDT	3.5	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.5	U
7421-93-4	Endrin aldehyde	3.5	U
5103-71-9	alpha-Chlordane	1.8	U
5103-74-2	gamma-Chlordane	1.8	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	35	U
11104-28-2	Aroclor-1221	70	U
11141-16-5	Aroclor-1232	35	U
53469-21-9	Aroclor-1242	35	U
12672-29-6	Aroclor-1248	35	U
11097-69-1	Aroclor-1254	35	U
11096-82-5	Aroclor-1260	35	U

1.8 0.096 JP U
3.5 0.12 JPB U
3.5 0.81 JBU

9-15-99



E & E Environmental, Inc.

International Specialists in the Environment

1500 First Interstate Center, 999 Third Avenue
Seattle, Washington 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: September 23, 1999

TO: Mark Woodke, Project Manager, E & E, Seattle, WA

FROM: Alasdair Turner, START-Chemist, E & E, Seattle, WA

SUBJ: Inorganic Data Quality Assurance Summary Review, Wenatchee Brownfields Site, Wenatchee, Washington.

REF: TDD: 98-11-0007 **PAN:** CK0701SIDM

The data quality assurance summary review of 20 soil samples collected from the Wenatchee Brownfields Site in Wenatchee, Washington has been completed. Analysis for VOCs, SVOC, and Pest/PCBs (EPA CLP SOW for organic analysis OLM03.2) has been completed, and was performed by COMPUCEM, of Cary, NC.

No discrepancies were noted.

ENVIRONMENTAL SERVICES ASSISTANCE TEAMS - WESTERN ZONE

LOCKHEED MARTIN
TECHNOLOGY SERVICES GROUP

ESAT Region 10
Lockheed Martin
7411 Beach Drive East
Port Orchard, WA 98366
Phone (360) 871-8723

DELIVERABLE NARRATIVE

DATE: August 25, 1999

TO: Ginna Grepo-Grove, WAM, USEPA, Region 10

THROUGH: Dave Dobb, Team Manager, ESAT Region 10 *DD*

FROM: Chris Pace, Task Lead, ESAT Region 10 *CP*

SUBJECT: Data validation report for the volatile organic (VOA), semi-volatile organic (SVOA) and pesticide/polychlorinated biphenyl (Pest/PCB) analysis of samples from the Wenatchee Brownfields Site. Case: 27165 SDG: JW515

DOC: ESW10-3-1363

PWO: ESW72018

TDF: 3636

WA: 10-99-3-10

CC: Gerald Dodo, RPO, USEPA, Region 10
Project File

The quality assurance (QA) review of 20 soil samples collected from the above referenced site has been completed. These samples were analyzed for VOA, SVOA and Pest/PCB in accordance with the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analyses (OLM03.2) by COMPUCEM of Cary, NC.

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the USEPA CLP SOW for Organic Analysis (OLM03.2), the USEPA CLP National Functional Guidelines for Organic Data Review (2/94) and the Region 10 Guidelines for CLP Data Review.

The conclusions presented herein are based on the information provided for the review.

Holding Time

All samples were preserved with ice prior to shipment. All of the samples met the method and technical (40 CFR 136) required holding times for all analyses with the following exceptions:

SVOA samples JW515, JW531, JW531DL and JW532 were extracted 17 to 21 days from the collection date and therefore, were qualified as estimated, "J/UJ".

SVOA samples JW516, JW518RE, JW525, JW525DL, JW528RE and JW529RE were extracted 23 to 27 days from the collection date thus grossly exceeding the extraction holding time criteria of 14 days. The recovery of the phenolic and more volatile compounds may have been affected. Sample data were qualified as estimated, "J/UJ".

The Holding Times Summary listing the pertinent collection, extraction, and analysis dates is attached at the end of this validation report.

Instrument Performance - Acceptable

All of the GC and GC/MS systems met the SOW specified technical acceptance criteria prior to sample analyses, i.e., GC/MS performance checks, GC performance checks, retention times, response factors, and calibrations. The systems remained stable throughout the course of analyses. Instrument blanks were all clean and there were no indications of carry-over.

Initial Calibrations

Two VOA, nine SVOA and two Pest/PCB initial calibrations were performed. The initial calibrations met the SOW technical acceptance criteria with the following exceptions:

- VOA Initial Calibration on 6/28/99, instrument 55 - the %RSD for 2-hexanone was 31.4. The lowest calibration level was non-linear. Associated samples were qualified as estimated, "J/UJ", in the non-linear portion of the calibration curve.
- SVOA Initial Calibration on 7/22/99, instrument 66 - the %RSD for carbazole was 35.1. The %RSD for 3,3'-dichlorobenzidine was 34.3. The lowest calibration level was non-linear for both analytes. Associated samples were qualified as estimated, "J/UJ", in the non-linear portion of the calibration curves.
- SVOA Initial Calibration on 7/23/99, instrument 66 - the %RSD for 3,3'-dichlorobenzidine was 33.6. The lowest calibration level was non-linear. Associated samples were qualified as estimated, "J/UJ", in the non-linear portion of the calibration curve.

Continuing Calibration Verification (CCVs) Standards

All of the CCVs met the criteria for frequency of analysis, the minimum response factor, the retention time and the percent differences (%Ds) criteria with the following exceptions:

- The %Ds for the following VOA compounds exceeded the QC limits and the associated results were qualified accordingly:

Date /Time of Analysis	Inst. i.d.	Compound	%D	Qualifier Detect/Non-detect
7/12/99 (09:07)	51	trans-1,3-dichloropropene	26.5	J/none
		2-hexanone	26.5	J/none
		1,2-dichloroethane-d4 (surr.)	40.8	none
7/13/99 (08:31)	51	chloromethane	-42.8	J/UJ
		1,2-dichloroethane	29.2	J/none
		1,2-dichloroethane-d4 (surr.)	42.4	none
7/11/99 (12:11)	55	chloroethane	-25.9	none
		carbon disulfide	-31.8	J/UJ
		1,1-dichloroethene	-29.4	J/UJ
		tetrachloroethene	-28.7	J/UJ

- The %Ds for the following SVOA compounds exceeded the QC limits and the associated results were qualified accordingly:

Date /Time of Analysis	Inst. i.d.	Compound	%D	Qualifier Detect/Non-detect
7/16/99 (21:53)	64	4-methylphenol	28.1	J/none
7/20/99 (09:30)	66	2,4-dinitrophenol	-25.2	none
7/22/99 (14:31)	66	4-nitroaniline 3,3'-dichlorobenzidine	58.1 26.6	J/none J/none
7/30/99 (21:22)	68	3,3'-dichlorobenzidine	-26.0	none
7/14/99 (23:38)	70	pentachlorophenol 2,4,6-tribromophenol (surr.)	-27.5 -28.8	J/UJ none
7/29/99 (09:06)	70	n-nitroso-di-n-propylamine 4-chloroaniline butylbenzylphthalate 3,3'-dichlorobenzidine bis(2-ethylhexyl)phthalate di-n-octylphthalate	32.6 25.7 33.5 -37.6 28.4 66.3	J/none none J/none J/UJ J/none J/none

Compound Quantitation and Detection Limits

All of the samples were analyzed at the contract required quantitation limits (CRQLs) with the following exceptions:

SVOA sample JW544 was analyzed at a 2X dilution due to matrix interferences. Pest/PCB samples JW520, JW524, JW539, JW543 were analyzed at dilutions of 2X, 2X, 10X and 5X respectively, due to matrix interferences.

Target compounds that were detected at concentrations less than the CRQLs were qualified as estimated, "J". Detected compounds at concentrations over the calibration range were qualified as estimated, "J". Data users should consider these estimated compounds as the minimum amount present in the samples. It is also recommended that for these compounds, data users should utilize the concentrations reported from the dilution runs. All of the reported results were adjusted for sample amounts analyzed.

Blanks

Acetone was detected below the CRQL in the VOA blanks VBLKT6, VBLKT7, VBLKU4 and VHBLKU3. Acetone detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

Methylene chloride was detected below the CRQL in the VOA blanks VBLKT6 and VHBLKU3. Methylene chloride detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

2-Hexanone was detected below the CRQL in the VOA blanks VBLKT6, VBLKT7 and VBLKU4. 2-Hexanone detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

Bis(2-ethylhexyl)phthalate was detected below the CRQL in the SVOA blank SBLKMY. Bis(2-ethylhexyl)phthalate detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

Di-n-butylphthalate was detected below the CRQL in the SVOA blank SBLKPG. Di-n-butylphthalate detected in the samples at concentrations less than ten times the value in their associated blank(s) were qualified as non-detects, "U".

Analytical Sequence - Acceptable

All of the standards, blanks, samples, and QC samples were analyzed in accordance with the SOW specified analytical sequence.

System Monitoring Compounds (SMC)/Surrogate Spikes

All of the VOA SMC recoveries met the applicable QC criteria.

All of the SVOA surrogates recoveries met the applicable QC criteria with the following exceptions:

	2-fluorobiphenyl	phenol-d5	2-fluorophenol	2,4,6-tribromophenol	2-chlorophenol
JW518		14%	2%	0%	7%
JW518RE			8%	0%	17%
JW528	28%	15%	3%	0%	6%
JW528RE			4%	1%	12%
JW529		15%	6%	0%	12%
JW529RE			3%	0%	10%

Due to the extremely low acid fraction surrogate recoveries for the above listed samples, the detected acid fraction analytes were qualified as estimated, "J", and the non-detected acid fraction analytes were qualified "R".

All of the Pest/PCB surrogate spike recoveries met the applicable QC criteria (30-150%) with the exception of the following:

JW515	decachlorobiphenyl column 2	186%
JW544	decachlorobiphenyl column 2	170%

One or more surrogates in samples JW520DL and JW525DL were reported as diluted out. None of Pest/PCB data were qualified on the basis of surrogate recovery.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

VOA sample JW523 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses.

SVOA sample JW523 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses with the following exceptions:

JW523MS	4-chloro-3-methylphenol 19%, 4-nitrophenol 0%, pentachlorophenol 16%
JW523MSD	4-chloro-3-methylphenol 11%, 4-nitrophenol 0%, pentachlorophenol 9%

The RPDs between JW523MS and JW523MSD were 53% for 4-chloro-3-methylphenol and 56% for pentachlorophenol.

Pest/PCB sample JW523 was utilized for MS/MSD analyses. The criteria for frequency of analysis, recoveries and RPDs were met for all analyses.

No data qualification was applied based on MS/MSD analysis.

Internal Standards - Acceptable

The acceptance criteria for internal standards (IS) are ± 30 seconds for retention time (RT) shifts and -50% to +100% of the IS area as compared to the IS RT and area of the daily continuing calibration standard. All of the GC/MS analyses met the IS area and retention time shift criteria.

Compound Identification

All of the compounds detected in the GC/MS analyses were within the retention time windows, met the USEPA spectral matching criteria and were judged to be acceptable with the following exception:

Benzo(b)fluoranthene and benzo(k)fluoranthene could not be chromatographically separated in sample JW520 and were reported together using the response factor that resulted in the highest concentration (that of benzo(k)fluoranthene).

Single component pesticides were qualified as follows: where %Ds (between two column concentrations) $> 30\%$ but $\leq 60\%$ - detected results were qualified as estimated, "J"; %Ds $> 60\%$ with concentrations $> \text{CRQL}$ - results were qualified as tentatively identified at the estimated concentration, "JN"; %Ds $> 60\%$ with concentrations $< \text{CRQL}$ - results were qualified as non-detects, "U"; %Ds $> 400\%$ - results were qualified as non-detects with raised quantitation limit if $> \text{CRQL}$. In cases where %Ds $< 60\%$ with concentrations $< \text{CRQL}$ and chromatographic interferences, the results were qualified as non-detects, "U". In cases where %Ds $< 400\%$ with concentrations $> \text{CRQL}$ and chromatographic interferences, the results were qualified as tentatively identified at the estimated concentration, "JN".

A correction was made by the reviewer to the result of 4,4'-DDD in Pest/PCB sample JW515. Due to similar retention time windows on column 1, an analyte peak was incorrectly identified as endosulfan II instead of 4,4'-DDD.

Tentatively Identified Compounds

Peaks that were detected in the samples at areas $> 10\%$ of the internal standards and were not part of the target compound lists were identified as tentatively identified compounds (TICs). TICs that were both found in the sample and in the associated method blank(s) were qualified as unusable, "R." Peaks that were identified as common laboratory contaminants, solvent preservatives, column bleed or aldol condensation products were qualified as unusable, "R". The rest of the peaks identified as TICs were qualified "NJ", tentatively identified at an estimated concentration.

Laboratory Contact

The laboratory was contacted by Region 10 concerning the following items:

VOA sample JW517 - Check the integrated area for acetone. When the sample and standards chromatograms are compared, the area listed on page 101 seems high. The mass spectra for acetone on page 103 does not meet the spectral matching criteria. The molecular ion for acetone, m/z 58, is absent. There is, however, an m/z 56. Resolution: Acetone should not have been reported. Acetone was qualified as non-detected, "U", at the reported

concentration.

VOA sample JW517 - The large peak on the sample chromatogram at about 21 minutes was not reported as a TIC. Are the two TICs that were reported as artifacts in this sample common in your laboratory. Resolution: The two TICs reported as artifacts were errors. Corrected FORM I VOA-TIC and supporting raw data have been submitted.

All raw data for the SVOA instrument performance check on 7/8/99 at 20:41 (instrument HP70) is missing. Raw data for the instrument performance check on 7/9/99 at 08:46 was included and is not needed (pages 2426-2429).

The SVOA analysis of sample JW518RE reports benzene as a TIC. Benzene was not reported in the analysis of SVOA of JW518 or the VOA analysis of JW518. Resolution: The benzene TIC in SVOA sample JW518RE was qualified as unusable, "R".

The SVOA analysis of sample JW525 reports benzo(a)anthracene and chrysene at the same retention time. Resolution: Corrected FORM I SV-1 and supporting raw data have been submitted.

FORM VII PEST-1 are missing for PEM28 (8/2 at 2024) and PEM34 (8/4 at 2025).

All issues have been resolved. Hard copies of all resubmissions will be sent to Region 10.

Overall Assessment

All of the samples were analyzed in accordance with the SOW specifications. The data, as qualified, are acceptable and can be used for all purposes.

Data Qualifiers

- | | | |
|----|---|--|
| U | - | The analyte was not detected at or above the reported result. |
| J | - | The analyte was positively identified. The associated numerical result is an estimate. |
| R | - | The data are unusable for all purposes. |
| N | - | There is evidence the analyte is present in this sample. |
| JN | - | There is evidence that the analyte is present. The associated numerical result is an estimate. |
| UJ | - | The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample. |

Holding Time Summary - Case 27165

SDG: JW515

Sample Number	Collection Date	VTSR	VOA Analysis	SVOA Extraction	SVOA Analysis	Pest/PCB Extraction	Pest/PCB Analysis
JW515	6/29/99	7/2/99	7/11/99	7/16/99*	7/18/99	7/8/99	8/6/99
JW516	6/29/99	7/2/99	7/11/99	7/22/99*	7/25/99	7/8/99	8/3/99
JW517	6/29/99	7/2/99	7/11/99	7/8/99	7/20/99	7/8/99	8/3/99
JW518	6/29/99	7/2/99	7/11/99	7/8/99	7/20/99	7/8/99	8/3/99
JW519	6/29/99	7/2/99	7/12/99	7/8/99	7/24/99	7/8/99	8/3/99
JW520	6/29/99	7/2/99	7/12/99	7/12/99	7/15/99	7/8/99	8/5/99
JW521	6/29/99	7/2/99	7/11/99	7/8/99	7/20/99	7/8/99	8/5/99
JW523	6/30/99	7/2/99	7/11/99	7/8/99	7/24/99	7/8/99	8/6/99
JW524	6/30/99	7/2/99	7/11/99	7/8/99	7/20/99	7/8/99	8/5/99
JW525	6/30/99	7/3/99	7/13/99	7/26/99*	7/30/99	7/8/99	8/5/99
JW526	6/30/99	7/3/99	7/11/99	7/12/99	7/15/99	7/8/99	8/5/99
JW528	6/30/99	7/2/99	7/12/99	7/8/99	7/20/99	7/8/99	8/4/99
JW529	6/30/99	7/2/99	7/11/99	7/8/99	7/20/99	7/8/99	8/4/99
JW531	7/1/99	7/3/99	7/11/99	7/22/99*	7/25/99	7/8/99	8/6/99
JW532	7/1/99	7/3/99	7/11/99	7/22/99*	7/28/99	7/8/99	8/6/99
JW538	6/30/99	7/2/99	7/11/99	7/8/99	7/20/99	7/8/99	8/4/99
JW539	6/30/99	7/2/99	7/11/99	7/12/99	7/15/99	7/8/99	8/5/99
JW540	6/30/99	7/2/99	7/12/99	7/8/99	7/20/99	7/8/99	8/6/99
JW543	7/1/99	7/3/99	7/13/99	7/8/99	7/23/99	7/8/99	8/5/99
JW544	7/1/99	7/3/99	7/13/99	7/8/99	7/23/99	7/8/99	8/6/99
JW518RE	6/29/99	7/2/99	NA	7/26/99*	7/30/99	NA	NA
JW528RE	6/30/99	7/2/99	NA	7/23/99*	7/29/99	NA	NA
JW529RE	6/30/99	7/2/99	NA	7/26/99*	7/30/99	NA	NA
JW516DL	6/29/99	7/2/99	NA	NA	NA	7/8/99	8/6/99
JW520DL	6/29/99	7/2/99	NA	NA	NA	7/8/99	8/6/99
JW523DL	6/30/99	7/2/99	NA	NA	NA	7/8/99	8/6/99
JW524DL	6/30/99	7/2/99	NA	NA	NA	7/8/99	8/6/99
JW525DL	6/30/99	7/3/99	NA	7/26/99*	7/31/99	7/8/99	8/6/99

Sample Number	Collection Date	VTSR	VOA Analysis	SVOA Extraction	SVOA Analysis	Pest/PCB Extraction	Pest/PCB Analysis
JW528DL	6/30/99	7/2/99	NA	NA	NA	7/8/99	8/6/99
JW531DL	7/1/99	7/3/99	NA	7/26/99*	7/29/99	NA	NA
JW538DL	6/30/99	7/2/99	NA	NA	NA	7/8/99	8/6/99
JW539DL	6/30/99	7/2/99	NA	NA	NA	7/8/99	8/6/99
JW540DL	6/30/99	7/2/99	NA	NA	NA	7/8/99	8/5/99
JW544DL	7/1/99	7/3/99	NA	NA	NA	7/8/99	8/6/99

VTSR - Verified time of sample receipt in the laboratory

NA - Not available

* - Outside of holding time

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW515

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949440

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049440A55

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 7

Date Analyzed: 07/11/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	32	U
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	4	J
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (Total)	3	J

FORM I VOA

OLM03.0

CP8-18-99

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW515

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949440

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049440a55

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 7

Date Analyzed: 07/11/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SUBSTITUTED CYCLOHEXANE	19.80	6	JN
2.	SUBSTITUTED ALKANE	20.37	6	JN
3.	SUBSTITUTED CYCLOHEXANE	20.49	11	JN
4.	LABORATORY ARTIFACT <i>Lab Contamination</i>	21.00	25	JN R
5.	UNKNOWN HYDROCARBON	21.13	6	JN
6.	SUBSTITUTED BENZENE	21.22	11	JN
7.	UNKNOWN HYDROCARBON	21.34	7	JN
8.	SUBSTITUTED BENZENE	21.95	9	JN
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP
8-18-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM

Contract: 68D50004

JW516

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949449

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049449A55

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 17

Date Analyzed: 07/11/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	12	U
74-83-9-----	Bromomethane	12	U
75-01-4-----	Vinyl Chloride	12	U
75-00-3-----	Chloroethane	12	U
75-09-2-----	Methylene Chloride	12	U
67-64-1-----	Acetone	14	U
75-15-0-----	Carbon Disulfide	12	U
75-35-4-----	1,1-Dichloroethene	12	U
75-34-3-----	1,1-Dichloroethane	12	U
540-59-0-----	1,2-Dichloroethene (total)	12	U
67-66-3-----	Chloroform	12	U
107-06-2-----	1,2-Dichloroethane	12	U
78-93-3-----	2-Butanone	3	J
71-55-6-----	1,1,1-Trichloroethane	12	U
56-23-5-----	Carbon Tetrachloride	12	U
75-27-4-----	Bromodichloromethane	12	U
78-87-5-----	1,2-Dichloropropane	12	U
10061-01-5-----	cis-1,3-Dichloropropene	12	U
79-01-6-----	Trichloroethene	12	U
124-48-1-----	Dibromochloromethane	12	U
79-00-5-----	1,1,2-Trichloroethane	12	U
71-43-2-----	Benzene	12	U
10061-02-6-----	trans-1,3-Dichloropropene	12	U
75-25-2-----	Bromoform	12	U
108-10-1-----	4-Methyl-2-Pentanone	12	U
591-78-6-----	2-Hexanone	12	U
127-18-4-----	Tetrachloroethene	12	U
79-34-5-----	1,1,2,2-Tetrachloroethane	12	U
108-88-3-----	Toluene	12	U
108-90-7-----	Chlorobenzene	12	U
100-41-4-----	Ethylbenzene	2	J
100-42-5-----	Styrene	12	U
1330-20-7-----	Xylene (Total)	14	

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW516

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949449

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049449a55

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 17

Date Analyzed: 07/11/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 9

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

CAS. NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SUBSTITUTED CYCLOHEXANE	19.78	6	JN
2.	UNKNOWN CYCLIC HYDROCARBON	20.47	9	JN
3. 79-92-5	CAMPHENE	20.89	8	NJ
4.	LABORATORY ARTIFACT Lab Cont.	20.99	29	J R
5.	SUBSTITUTED BENZENE	21.11	7	JN
6.	SUBSTITUTED BENZENE	21.21	17	J
7.	SUBSTITUTED BENZENE	21.43	7	J
8.	SUBSTITUTED BENZENE	21.63	16	J
9.	SUBSTITUTED BENZENE	21.94	10	J
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-18-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.:

JW517

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949450

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049450A55

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 29

Date Analyzed: 07/11/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	14	U
67-64-1	Acetone	150	U
75-15-0	Carbon Disulfide	14	U
75-35-4	1,1-Dichloroethene	14	U
75-34-3	1,1-Dichloroethane	14	U
540-59-0	1,2-Dichloroethene (total)	14	U
67-66-3	Chloroform	14	U
107-06-2	1,2-Dichloroethane	14	U
78-93-3	2-Butanone	13	J
71-55-6	1,1,1-Trichloroethane	14	U
56-23-5	Carbon Tetrachloride	14	U
75-27-4	Bromodichloromethane	14	U
78-87-5	1,2-Dichloropropane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
79-01-6	Trichloroethene	14	U
124-48-1	Dibromochloromethane	14	U
79-00-5	1,1,2-Trichloroethane	14	U
71-43-2	Benzene	14	U
10061-02-6	trans-1,3-Dichloropropene	14	U
75-25-2	Bromoform	14	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	14	U
79-34-5	1,1,2,2-Tetrachloroethane	14	U
108-88-3	Toluene	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	14	U
100-42-5	Styrene	14	U
1330-20-7	Xylene (Total)	14	U

FORM I VOA

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW518

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949451

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049451A55

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 7

Date Analyzed: 07/11/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	11	U
74-83-9-----	Bromomethane	11	U
75-01-4-----	Vinyl Chloride	11	U
75-00-3-----	Chloroethane	11	U
75-09-2-----	Methylene Chloride	11	U
67-64-1-----	Acetone	12	U
75-15-0-----	Carbon Disulfide	11	U
75-35-4-----	1,1-Dichloroethene	11	U
75-34-3-----	1,1-Dichloroethane	11	U
540-59-0-----	1,2-Dichloroethene (total)	11	U
67-66-3-----	Chloroform	11	U
107-06-2-----	1,2-Dichloroethane	11	U
78-93-3-----	2-Butanone	2	J
71-55-6-----	1,1,1-Trichloroethane	11	U
56-23-5-----	Carbon Tetrachloride	11	U
75-27-4-----	Bromodichloromethane	11	U
78-87-5-----	1,2-Dichloropropane	11	U
10061-01-5-----	cis-1,3-Dichloropropene	11	U
79-01-6-----	Trichloroethene	11	U
124-48-1-----	Dibromochloromethane	11	U
79-00-5-----	1,1,2-Trichloroethane	11	U
71-43-2-----	Benzene	11	U
10061-02-6-----	trans-1,3-Dichloropropene	11	U
75-25-2-----	Bromoform	11	U
108-10-1-----	4-Methyl-2-Pentanone	11	U
591-78-6-----	2-Hexanone	11	U
127-18-4-----	Tetrachloroethene	11	U
79-34-5-----	1,1,2,2-Tetrachloroethane	11	U
108-88-3-----	Toluene	11	U
108-90-7-----	Chlorobenzene	11	U
100-41-4-----	Ethylbenzene	11	U
100-42-5-----	Styrene	11	U
1330-20-7-----	Xylene (Total)	2	J

FORM I VOA

OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW518

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949451

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049451a55

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 7

Date Analyzed: 07/11/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab cont.</i>	21.00	16	J R
2.	SUBSTITUTED BENZENE	21.44	6	J N
3.	SUBSTITUTED BENZENE	21.84	5	J
4.	SUBSTITUTED BENZENE	21.94	10	J
5.	SUBSTITUTED BENZENE	22.12	6	J
6.	SUBSTITUTED BENZENE	23.12	10	J
7.	UNKNOWN HYDROCARBON	23.29	8	J
8.	UNKNOWN HYDROCARBON	23.72	11	J ↓
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-18-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW519

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949452

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GR049452A51

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 6

Date Analyzed: 07/12/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

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

74-87-3-----Chloromethane	11	U
74-83-9-----Bromomethane	11	U
75-01-4-----Vinyl Chloride	11	U
75-00-3-----Chloroethane	11	U
75-09-2-----Methylene Chloride	11	U
67-64-1-----Acetone	11	U
75-15-0-----Carbon Disulfide	11	U
75-35-4-----1,1-Dichloroethene	11	U
75-34-3-----1,1-Dichloroethane	11	U
540-59-0-----1,2-Dichloroethene (total)	11	U
67-66-3-----Chloroform	11	U
107-06-2-----1,2-Dichloroethane	11	U
78-93-3-----2-Butanone	11	U
71-55-6-----1,1,1-Trichloroethane	11	U
56-23-5-----Carbon Tetrachloride	11	U
75-27-4-----Bromodichloromethane	11	U
78-87-5-----1,2-Dichloropropane	11	U
10061-01-5-----cis-1,3-Dichloropropene	11	U
79-01-6-----Trichloroethene	11	U
124-48-1-----Dibromochloromethane	11	U
79-00-5-----1,1,2-Trichloroethane	11	U
71-43-2-----Benzene	11	U
10061-02-6-----trans-1,3-Dichloropropene	11	U
75-25-2-----Bromoform	11	U
108-10-1-----4-Methyl-2-Pentanone	11	U
591-78-6-----2-Hexanone	11	U
127-18-4-----Tetrachloroethene	11	U
79-34-5-----1,1,2,2-Tetrachloroethane	11	U
108-88-3-----Toluene	11	U
108-90-7-----Chlorobenzene	11	U
100-41-4-----Ethylbenzene	11	U
100-42-5-----Styrene	11	U
1330-20-7-----Xylene (Total)	2	J

FORM I VOA

OLM03.0

CP 8-18-99

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW519

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949452

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gr049452a51

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 6

Date Analyzed: 07/12/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 9

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 71-23-8	1-PROPANOL	11.52	6	NJ
2.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.59	33	J <i>R</i>
3.	SUBSTITUTED ALKANE	21.48	9	J <i>N</i>
4.	SUBSTITUTED ALKANE	21.74	8	J <i>N</i>
5.	SUBSTITUTED ALKANE	21.97	7	J <i>N</i>
6.	LABORATORY ARTIFACT <i>Lab Cont.</i>	22.55	19	J <i>R</i>
7.	UNKNOWN CYCLIC HYDROCARBON	22.80	10	J <i>N</i>
8.	UNKNOWN HYDROCARBON	23.09	14	J <i>N</i>
9.	SUBSTITUTED ALKANE	23.37	7	J <i>N</i>
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP
8-18-99

FORM I VOA-TIC

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW520

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949453

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GR049453A51

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 22

Date Analyzed: 07/12/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	13	U
74-83-9-----	Bromomethane	13	U
75-01-4-----	Vinyl Chloride	13	U
75-00-3-----	Chloroethane	13	U
75-09-2-----	Methylene Chloride	13	U
67-64-1-----	Acetone	110	U
75-15-0-----	Carbon Disulfide	13	U
75-35-4-----	1,1-Dichloroethene	13	U
75-34-3-----	1,1-Dichloroethane	13	U
540-59-0-----	1,2-Dichloroethene (total)	13	U
67-66-3-----	Chloroform	13	U
107-06-2-----	1,2-Dichloroethane	13	U
78-93-3-----	2-Butanone	31	U
71-55-6-----	1,1,1-Trichloroethane	13	U
56-23-5-----	Carbon Tetrachloride	13	U
75-27-4-----	Bromodichloromethane	13	U
78-87-5-----	1,2-Dichloropropane	13	U
10061-01-5-----	cis-1,3-Dichloropropene	13	U
79-01-6-----	Trichloroethene	13	U
124-48-1-----	Dibromochloromethane	13	U
79-00-5-----	1,1,2-Trichloroethane	13	U
71-43-2-----	Benzene	13	U
10061-02-6-----	trans-1,3-Dichloropropene	13	U
75-25-2-----	Bromoform	13	U
108-10-1-----	4-Methyl-2-Pentanone	13	U
591-78-6-----	2-Hexanone	13	U
127-18-4-----	Tetrachloroethene	13	U
79-34-5-----	1,1,2,2-Tetrachloroethane	13	U
108-88-3-----	Toluene	13	U
108-90-7-----	Chlorobenzene	4	J
100-41-4-----	Ethylbenzene	8	J
100-42-5-----	Styrene	13	U
1330-20-7-----	Xylene (Total)	43	U

FORM I VOA

CP 8-18-99
OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW520

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949453

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gr049453a51

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 22

Date Analyzed: 07/12/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 21

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	LABORATORY ARTIFACT <i>Lab Cont.</i>	17.84	8	J R
2.	UNKNOWN HYDROCARBON	18.64	20	J N
3.	SUBSTITUTED CYCLOHEXANE	19.70	19	J
4.	TRIMETHYLDODECANE ISOMER	20.17	165	J
5.	SUBSTITUTED CYCLOHEXANE	20.32	15	J
6. 79-92-5	CAMPHENE	20.52	17	NJ
7.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.59	12	J R
8.	UNKNOWN ALKANE	20.85	13	J N
9.	UNKNOWN HYDROCARBON	20.94	12	J
10.	SUBSTITUTED BENZENE	21.07	9	J
11.	SUBSTITUTED ALKANE	21.17	18	J
12.	SUBSTITUTED BENZENE	21.23	48	J
13.	UNKNOWN HYDROCARBON	21.42	12	J
14.	SUBSTITUTED BENZENE	21.51	27	J
15.	SUBSTITUTED BENZENE	21.69	26	J
16.	SUBSTITUTED BENZENE	21.92	9	J
17.	SUBSTITUTED BENZENE	22.33	9	J
18.	UNKNOWN HYDROCARBON	22.69	17	J
19. 1195-79-5	BICYCLO[2.2.1]HEPTAN-2-ONE,	22.90	21	NJ
20.	SUBSTITUTED BENZENE	22.99	41	J N
21.	UNKNOWN HYDROCARBON	23.38	21	J
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-18-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM

Contract: 68D50004

JW521

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949454

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049454A55

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 12

Date Analyzed: 07/11/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg		Q
74-87-3	Chloromethane	11	U	
74-83-9	Bromomethane	11	U	
75-01-4	Vinyl Chloride	11	U	
75-00-3	Chloroethane	11	U	
75-09-2	Methylene Chloride	11	U	
67-64-1	Acetone	11	U	
75-15-0	Carbon Disulfide	11	U	
75-35-4	1,1-Dichloroethene	11	U	
75-34-3	1,1-Dichloroethane	11	U	
540-59-0	1,2-Dichloroethene (total)	11	U	
67-66-3	Chloroform	11	U	
107-06-2	1,2-Dichloroethane	11	U	
78-93-3	2-Butanone	2	J	
71-55-6	1,1,1-Trichloroethane	11	U	
56-23-5	Carbon Tetrachloride	11	U	
75-27-4	Bromodichloromethane	11	U	
78-87-5	1,2-Dichloropropane	11	U	
10061-01-5	cis-1,3-Dichloropropene	11	U	
79-01-6	Trichloroethene	11	U	
124-48-1	Dibromochloromethane	11	U	
79-00-5	1,1,2-Trichloroethane	11	U	
71-43-2	Benzene	11	U	
10061-02-6	trans-1,3-Dichloropropene	11	U	
75-25-2	Bromoform	11	U	
108-10-1	4-Methyl-2-Pentanone	11	U	
591-78-6	2-Hexanone	11	U	
127-18-4	Tetrachloroethene	11	U	
79-34-5	1,1,2,2-Tetrachloroethane	11	U	
108-88-3	Toluene	11	U	
108-90-7	Chlorobenzene	11	U	
100-41-4	Ethylbenzene	11	U	
100-42-5	Styrene	11	U	
1330-20-7	Xylene (Total)	11	U	

FORM I VOA

CP 8-18-99
OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW521

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949454

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049454a55

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 12

Date Analyzed: 07/11/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	UNKNOWN CYCLIC HYDROCARBON	23.46	6	JN
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP
8-18-99

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JW523

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949455

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH049455A55

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 8

Date Analyzed: 07/11/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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

74-87-3-----	Chloromethane	11	U
74-83-9-----	Bromomethane	11	U
75-01-4-----	Vinyl Chloride	11	U
75-00-3-----	Chloroethane	11	U
75-09-2-----	Methylene Chloride	11	U
67-64-1-----	Acetone	120	U
75-15-0-----	Carbon Disulfide	11	U
75-35-4-----	1,1-Dichloroethene	11	U
75-34-3-----	1,1-Dichloroethane	11	U
540-59-0-----	1,2-Dichloroethene (total)	11	U
67-66-3-----	Chloroform	11	U
107-06-2-----	1,2-Dichloroethane	11	U
78-93-3-----	2-Butanone	28	U
71-55-6-----	1,1,1-Trichloroethane	11	U
56-23-5-----	Carbon Tetrachloride	11	U
75-27-4-----	Bromodichloromethane	11	U
78-87-5-----	1,2-Dichloropropane	11	U
10061-01-5-----	cis-1,3-Dichloropropene	11	U
79-01-6-----	Trichloroethene	11	U
124-48-1-----	Dibromochloromethane	11	U
79-00-5-----	1,1,2-Trichloroethane	11	U
71-43-2-----	Benzene	11	U
10061-02-6-----	trans-1,3-Dichloropropene	11	U
75-25-2-----	Bromoform	11	U
108-10-1-----	4-Methyl-2-Pentanone	11	U
591-78-6-----	2-Hexanone	11	U
127-18-4-----	Tetrachloroethene	11	U
79-34-5-----	1,1,2,2-Tetrachloroethane	11	U
108-88-3-----	Toluene	11	U
108-90-7-----	Chlorobenzene	11	U
100-41-4-----	Ethylbenzene	11	U
100-42-5-----	Styrene	11	U
1330-20-7-----	Xylene (Total)	11	U

FORM I VOA

CP 8-18-99
OLM03.0

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JW523

Lab Name: COMPUCHEM

Contract: 68D50004

Lab Code: COMPU

Case No.: 27165

SAS No.:

SDG No.: JW515

Matrix: (soil/water) SOIL

Lab Sample ID: 949455

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: gh049455a55

Level: (low/med) LOW

Date Received: 07/02/99

% Moisture: not dec. 8

Date Analyzed: 07/11/99

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	LABORATORY ARTIFACT <i>Lab Cont.</i>	20.99	56	J R
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

CP 8-18-99