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Global Specialists in the Environment

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November 8, 2012

Jeffrey Fowlow, On-Scene Coordinator  
United States Environmental Protection Agency, Region 10  
1200 Sixth Avenue, ECL-116  
Seattle, Washington 98102

Re: Time-Critical Removal Action Report for the Stubblefield Salvage Yard Site, Walla  
Walla, Washington  
Contract Number EP-S7-06-02, Technical Direction Document Number 11-11-0003

Dear Mr. Fowlow:

Enclosed please find the Time-Critical Removal Action Report for the Stubblefield Salvage Yard Site. If you have any questions regarding this submittal, please call Jake Moersen at (206) 624-9537 or me at (206) 920-1739.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Steven G. Hall  
START-3 Project Leader

cc: Jake Moersen, START-3 Project Manager, Seattle, Washington

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# **TIME-CRITICAL REMOVAL ACTION REPORT**

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**Stubblefield Salvage Yard Site  
Walla Walla, Washington  
TDD: 11-11-0003**



Prepared for:

U.S. Environmental Protection Agency, Region 10  
1200 Sixth Avenue, ECL-116  
Seattle, Washington 98102

Prepared by:

Ecology and Environment, Inc.  
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November 2012

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# Table of Contents

	<b>Executive Summary .....</b>	<b>xi</b>
<b>1</b>	<b>Introduction .....</b>	<b>1-1</b>
<b>2</b>	<b>Site Description and Background.....</b>	<b>2-1</b>
	2.1 Site Location .....	2-1
	2.2 Site Layout .....	2-1
	2.3 Surrounding Land Uses.....	2-1
	2.4 Site History, Operations, and Ownership.....	2-2
	2.4.1 Previous Owners .....	2-2
	2.4.2 Current Owners .....	2-2
	2.5 Previous Investigations .....	2-2
	2.5.1 Washington State Department of Ecology Inspections.....	2-2
	2.5.2 Phase I and II Environmental Site Assessment of Myra Road Extension Project.....	2-3
<b>3</b>	<b>Removal Action Description .....</b>	<b>3-1</b>
	3.1 Removal Action Objectives .....	3-1
	3.1.1 October 2009 .....	3-2
	3.1.2 April 2012 .....	3-2
<b>4</b>	<b>Project Organization, Cost, and Schedule.....</b>	<b>4-1</b>
	4.1 Key Organizations and Roles.....	4-1
	4.2 Project Costs.....	4-1
	4.3 Final Project Schedule.....	4-2
<b>5</b>	<b>Removal Activities .....</b>	<b>5-1</b>
	5.1 October 2009.....	5-1
	5.2 April 2012 .....	5-3
<b>6</b>	<b>Post-Removal Site Controls .....</b>	<b>6-1</b>
<b>7</b>	<b>Waste Management, Transportation, and Disposal Activities .....</b>	<b>7-1</b>
<b>8</b>	<b>Quality Assurance/Quality Control.....</b>	<b>8-1</b>
	8.1 Satisfaction of Data Quality Objectives .....	8-1
	8.2 Quality Assurance/Quality Control Samples .....	8-1
	8.3 Project-Specific Data Quality Objectives .....	8-1
	8.3.1 Precision.....	8-2
	8.3.2 Accuracy.....	8-2
	8.3.3 Completeness .....	8-2
	8.3.4 Representativeness .....	8-2

**Table of Contents (cont.)**

<b>Section</b>	<b>Page</b>
8.3.5	Comparability..... 8-2
8.4	Laboratory Quality Assurance/Quality Control Parameters ..... 8-2
8.4.1	Holding Times/Temperatures..... 8-2
8.4.2	Laboratory Blanks ..... 8-3
8.4.3	Serial Dilution Analysis ..... 8-3
8.4.4	Rinsate Blanks..... 8-3
8.4.5	Trip Blanks..... 8-3
<b>9</b>	<b>Community Relations ..... 9-1</b>
<b>10</b>	<b>Health and Safety ..... 10-1</b>
<b>11</b>	<b>Difficulties Encountered / Recommendations ..... 11-1</b>
<b>12</b>	<b>Summary and Conclusions ..... 12-1</b>
<b>13</b>	<b>References ..... 13-1</b>
<b>A</b>	<b>Photographs ..... A-1</b>
<b>B</b>	<b>May 2009 Transformer Sample Results ..... B-1</b>
<b>C</b>	<b>May and September 2009 Drum Sample Results ..... C-1</b>
<b>D</b>	<b>October 2009 Drum Sample Results ..... D-1</b>
<b>E</b>	<b>May and September 2009 Bulk Sample Results ..... E-1</b>
<b>F</b>	<b>September 2009 Soil Sample Results ..... F-1</b>
<b>G</b>	<b>October 2009 Air Sample Results..... G-1</b>
<b>H</b>	<b>April 2012 Drum Sample Results ..... H-1</b>
<b>I</b>	<b>Disposal Manifests..... I-1</b>
<b>J</b>	<b>Pollution Report ..... J-1</b>
<b>K</b>	<b>Data Memoranda ..... K-1</b>

## List of Tables

<b>Table</b>	<b>Page</b>
Table 4-1 Project Costs .....	4-1
Table 4-2 Project Schedule.....	4-2
Table 7-1 Waste Disposal.....	7-1

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## List of Figures

<b>Figure</b>		<b>Page</b>
2-1	Site Location Map.....	2-5
2-2	Site Layout Map.....	2-7

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## List of Abbreviations

<b>Abbreviation</b>	<b>Definition</b>
%	percent
%R	percent recovery
ACM	asbestos containing material
bgs	below ground surface
BS	blank spike
BSD	blank spike duplicate
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DQOs	data quality objectives
E & E	Ecology and Environment, Inc.
Ecology	Washington State Department of Ecology
EE/CA	engineering evaluation / cost analysis
EPA	United States Environmental Protection Agency
EQM	Environmental Quality Management, Inc.
ERRS	Emergency and Rapid Response Services
ESA	Environmental Site Assessment
HDR	HDR Engineering, Inc.
MCLs	Maximum Contaminant Levels for tap water
µg/L	micrograms per liter
mg/kg	milligrams per kilogram
MS	matrix spike
MSD	matrix spike duplicate
MTCA	Model Toxics Control Act
NIOSH	National Institute for Occupational Safety and Health
NWTPH	Northwest Total Petroleum Hydrocarbon
OSC	On-Scene Coordinator
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCM	phase contrast microscopy
PLM	polarized light microscopy
POLREP	Pollution Report
PPE	personal protective equipment
process area	metal salvage process area

## List of Abbreviations and Acronyms (cont.)

QA	quality assurance
QC	quality control
RA	removal action
RCRA	Resource Conservation and Recovery Act
RPD	relative percent difference
RSE	removal site evaluation
SARA	Superfund Amendments and Reauthorization Act
SSSP	site-specific sampling plan
START	Superfund Technical Assessment and Response Team
SVOCs	semivolatile organic compounds
TDD	Technical Direction Document
TPH	total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
VOCs	volatile organic compounds
XRF	X-ray fluorescence
yd <sup>3</sup>	cubic yard

# Executive Summary

The United States Environmental Protection Agency (EPA) performed a limited site characterization at the Stubblefield Salvage Yard Site in May 2009 and initiated a time-critical removal action (RA) with two mobilizations in October 2009 and April 2012. The salvage yard, located in Walla Walla, Washington, has been a metal salvage and recycling facility for over 60 years. EPA conducted the RA to mitigate the threat to human health and the environment posed by uncontrolled containers of hazardous substances, including leaking drums of waste, piles of asbestos containing material (ACM), and stained soil with elevated concentrations of metals, polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs) including polycyclic aromatic hydrocarbons (PAHs), and other contaminants.

The Stubblefield Salvage Yard was originally a 40-acre facility owned by Emory Stubblefield, and the facility operated from approximately 1950 until 2010. In 1995 the western 20 acres of the lot was sold to the County of Walla Walla for construction of a waste water treatment plant, and in 2005 and 2006 the Walla Walla County Department of Public Works conducted Phase I and Phase II environmental site assessments in advance of their purchase in 2008 of approximately 9 acres of the remaining lot for the construction of Myra Road. After each of these parcel subdivisions and sales, the salvage yard operations were consolidated on the remaining piece of the parcel.

The Washington State Department of Ecology (Ecology) conducted inspections at the site in 1999, 2002, 2006, and 2007. During the inspections Ecology documented ongoing hydraulic fluid leaks from equipment used at the site in addition to other suspected environmental conditions such as improper handling of used oil, spent batteries, incinerator ash, and automotive fluids. Upon Mr. Stubblefield's death in 2008 his children entered the property into Ecology's Voluntary Cleanup Program to address environmental issues, and in 2009 Ecology referred the site to EPA.

In May 2009, an EPA On-Scene Coordinator (OSC) visited the site and documented conditions that indicated a release and threat of a release of hazardous substances to the environment. Later that month EPA mobilized to the site to begin a removal site evaluation (RSE), which included documentation of uncontrolled drums and storage tanks; collection of suspected ACM, groundwater, product/oil, and soil samples; air monitoring; and radiation surveying. Analytical results of samples collected from drum contents indicated the presence of PCBs, pesticides, total petroleum hydrocarbons (TPH), and volatile organic compounds (VOCs). Chrysotile asbestos was detected in friable ACM siding near the shop building and in a pile of ACM panels in the northeast corner of the property. Analytical results also indicated soil contamination in the metal salvage process area (process area) and drum fields located in the southern portion of the site. Soil contamination in and around the process area and site groundwater is discussed in a separate RSE report.

EPA recognized the threat posed by the uncontrolled drums, contaminated soil, and friable ACM that were previously identified at the site. In October 2009 EPA mobilized to conduct a time-critical RA to mitigate the uncontrolled drums, perform a targeted excavation of stained soils, remove ACM siding from the shop building, remove ACM panels and asbestos-contaminated soil, and continue to characterize contamination at the site. Disposal metrics for the October 2009 RA include approximately 75 cubic yards (yd<sup>3</sup>) of non-Resource Conservation and Recovery Act (RCRA) lead-contaminated soils, 150 yd<sup>3</sup> asbestos waste and asbestos-

contaminated soil, 7 drums of PCB oil and sludge, 11 drums PCB oils and water, 40 yd<sup>3</sup> of non-Toxic Substances Control Act (TSCA) PCB debris, and 3 drums of painted-related waste. Approximately 650 gallons of non-PCB oil was also shipped off site for recycling.

In April 2012, EPA mobilized to the site to mitigate uncontrolled drums that had been generated when salvage yard operations were shut down. EPA disposed of 61 drums of waste, which apparently included some drums containing wastes that had been abandoned at the site. The drum contents were consolidated and overpacked for transportation off site to a disposal facility along with drums of investigation-derived waste generated during previous EPA investigations. EPA directed the targeted removal of stained soil near the shop building for disposal in a roll-off container for disposal. Disposal metrics for the April 2012 mobilization include approximately 20 yd<sup>3</sup> of non-RCRA solid waste, six drums of malathion (a pesticide), six drums of liquid flammable waste, 18 drums of waste oil with lead, 13 drums of waste oil, 10 drums of liquid hazardous waste (not otherwise specified), and eight drums of solid hazardous waste (not otherwise specified).

# 1 Introduction

The United States Environmental Protection Agency (EPA) performed a time-critical removal action (RA) at the Stubblefield Salvage Yard Site in Walla Walla, Washington. The RA included an initial mobilization in October 2009 and a second mobilization in April 2012. The salvage yard operated for approximately 60 years to process metal wastes for recycling or disposal until 2010. The facility is currently inactive. In May 2009, an EPA On-Scene Coordinator (OSC) visited the site and reported oil-stained soil, unlabeled drums, and several large open-top tanks, the largest of which was approximately 800 gallons and contained a heavy oily substance. EPA also observed other types of uncontrolled wastes on site, including transformers containing suspected polychlorinated biphenyls (PCBs) and loose asbestos containing materials (ACM). EPA then initiated the RA to mitigate the threat of release of hazardous substances from these uncontrolled wastes.

EPA performed the RA under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA). EPA tasked Ecology and Environment, Inc. (E & E), under Superfund Technical Assessment and Response Team (START)-3 contract number EP-S7-06-02, Technical Direction Document (TDD) number 11-11-0003<sup>1</sup>, to provide technical assistance and sampling support and to document the RA.

From 2009 through 2012, EPA also performed a removal site evaluation (RSE) at the site that included seven separate field sampling events. The results of this RSE are summarized in a separate report (E & E 2012a). At first, the objective of the RSE was to survey the site and identify major source areas of contamination. EPA quickly identified the metal salvage process area (process area) as a source area, and subsequent RSE field sampling events focused on further characterization and delineation of the process area.

During this time, EPA performed an RA with two separate mobilizations to stabilize the site and address uncontrolled wastes present on the ground at various site locations, generally referred to as drum fields. At some site areas, these removal activities were necessary to allow EPA to perform RSE field sampling activities. For example, EPA found it necessary to move and consolidate debris and drums from a specific site area to allow for the sampling of soil and subsurface soil in that area.

The first RA mobilization occurred in October 2009 to mitigate uncontrolled drums, perform a targeted excavation of stained soils, remove damaged ACM siding from the shop building and ground. At the time the facility was actively processing salvage material, and releases of hazardous substances and other contaminants from salvage operations (i.e., hydraulic fluid, metals, etc.) were ongoing. Therefore, during this mobilization, EPA focused on discrete site areas away from active salvage operations where removal activities could be performed safely on site areas unlikely to be re-contaminated by ongoing salvage operations.

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<sup>1</sup> Work for the first RA mobilization was performed under TDD 09-09-0010.

EPA returned to the site in April 2012 for the second RA mobilization to mitigate 61 drums of hazardous waste for off-site transportation and disposal. At the conclusion of this second event EPA directed all empty drums on site to be crushed or disposed of to discourage the illegal dumping of hazardous waste on the site.

The following time-critical RA report presents the Site Description and Background (Section 2), Removal Action Description (Section 3), Project Organization, Cost, and Schedule (Section 4), Removal Activities (Section 5), Post-Removal Site Controls (Section 6), Waste Management, Transportation, and Disposal Activities (Section 7), Quality Assurance/Quality Control (Section 8), Community Relations (Section 9), Health and Safety (Section 10), Difficulties Encountered/Recommendations (Section 11), Summary and Conclusions (Section 12), and References (Section 13). Photographs taken throughout the RA are presented in Appendix A.

# 2 Site Description and Background

## 2.1 Site Location

Site Name:	Stubblefield Salvage Yard
CERCLIS ID Number:	WAN001002813
Site Address:	980 NE Myra Road Walla Walla, Washington 98362
Latitude:	46.065 North
Longitude:	-118.369 West
Elevation:	Approximately 870 feet
Legal Description:	Section 24, Township 7 North, Range 35 East
County:	Walla Walla
Site Owner/Operator:	Adena Hodgins, Executor of the Estate of Emory Stubblefield

## 2.2 Site Layout

The Stubblefield Salvage Yard Site is part of an irregularly shaped property covering approximately 11 acres denoted as “Parcel 350724440024” in Walla Walla County Assessor’s records (2012; Figure 2-1). The process area is located in the north-central section of the lot, and includes a two-story shop building of unknown dimension and build date. A kiln was previously located on a concrete slab north of the shop building but has since been removed. The lot includes an unoccupied residence of 2034 square feet built in 1950 located southeast of the process area (Figure 2-2). The drum fields were located south of the process area and west of the residence. The topography is generally flat with a gentle slope to the north toward Mill Creek, with the exception of a low-lying swale in the northwest corner of the property that appears to be partially filled with debris from historical site operations.

The salvage yard formerly occupied a parcel that was approximately 40 acres in size. In 1995 the western half of the 40 acres was purchased by the County of Walla Walla for construction of a waste water treatment plant. The scrap metal and other materials that were located on that purchased parcel were reportedly consolidated onto the remaining 20-acre property using heavy machinery. A second property sale occurred in the fall of 2008, in which the western half (approximately 9 acres) of the remaining 20 acres was subdivided for the Myra Road right-of-way and an undeveloped lot. It was reported that the debris was again consolidated onto the remaining 11-acre property. Currently the site is inactive and the majority of salvageable metal and heavy machinery has been moved off site (EPA 2009).

There are two domestic groundwater wells on the property, and it is believed that one was used for salvage yard process water and one was used as a domestic well for site workers and residents.

## 2.3 Surrounding Land Uses

The site is bounded to the north by Mill Creek, to the west by Myra Road, to the south by private residences, and to the east by agricultural land (EPA 2009).

## **2.4 Site History, Operations, and Ownership**

### **2.4.1 Previous Owners**

The original 40-acre property was purchased in 1945 by Emory Stubblefield (WA v Stubblefield 1949). Previous land use and property ownership is unknown.

### **2.4.2 Current Owners**

Mr. Stubblefield operated a fat-rendering plant on the property from 1945 until approximately 1950 when he transitioned the business operation to a salvage yard facility. When it was operating, the facility received metal wastes such as vehicles, drums, appliances, transformers, structural metal, agricultural machines, batteries, spent ammunition casings, and household waste including metal cans. Once received, the waste products were processed in a variety of ways and were either disposed of or recycled (i.e., sold as scrap). Many of the metal materials were cut into smaller pieces using either hand-held acetylene torches or a large hydraulic shear. The resulting smaller pieces of metals were then compacted by a hydraulic baler and sold as scrap metal.

In 1995, the western 20 acres of the property was sold to the County of Walla Walla for construction of a waste water treatment plant, and in 2008 the County acquired approximately 9 additional acres for the construction of Myra Road. After each of these parcel subdivisions and sales, the salvage yard facility consolidated on the remaining property to the east (EPA 2009). The salvage yard was owned by Mr. Stubblefield until his death in 2008, and then operated until mid-2010 by his children. Currently, three of Emory Stubblefield's children are involved in a legal dispute with an adopted son concerning Emory Stubblefield's last will and testament.

## **2.5 Previous Investigations**

The following sections describe previous environmental investigations and other related investigations that have been conducted at the site.

### **2.5.1 Washington State Department of Ecology Inspections**

In 1999 and 2002, the Washington State Department of Ecology (Ecology) conducted Dangerous Waste Compliance Inspections at the facility which documented improper handling of used oil, spent batteries, incinerator ash, and automotive fluids. Information on actions taken by the state or the property owner regarding these inspections is not available (EPA 2009).

In 2006, a Dangerous Waste Compliance Inspection documented batteries scattered on the ground, a large spill of hydraulic fluid to the ground, and a minimum of twenty-five 55-gallon drums of used oil. Some of the drums were bulging and there was dark staining on the surrounding soils near many of them. Follow-up information regarding this inspection is not available (EPA 2009).

In April 2007, an Ecology inspection observed the presence of used oil and other heavy oils, hydraulic fluids, and damaged batteries lying uncovered on the ground. As a result, there was a concern that polycyclic aromatic hydrocarbons (PAHs), a particularly persistent and toxic group

of semivolatile organic compounds (SVOCs), may have been released from spills of used oil and from the incineration of various automobile components on the ground. No samples were collected as part of this inspection (EPA 2009).

Upon Mr. Stubblefield's death in 2008 his children entered the site into Ecology's Voluntary Cleanup Program to address environmental issues at the site; during this time the facility was still operating as an active salvage yard. The site was referred to EPA by Ecology in April 2009, and Ecology requested that "immediate intervention and action" be taken, as Ecology did not have the capacity to intervene at the time (EPA 2009).

### **2.5.2 Phase I and II Environmental Site Assessment of Myra Road Extension Project**

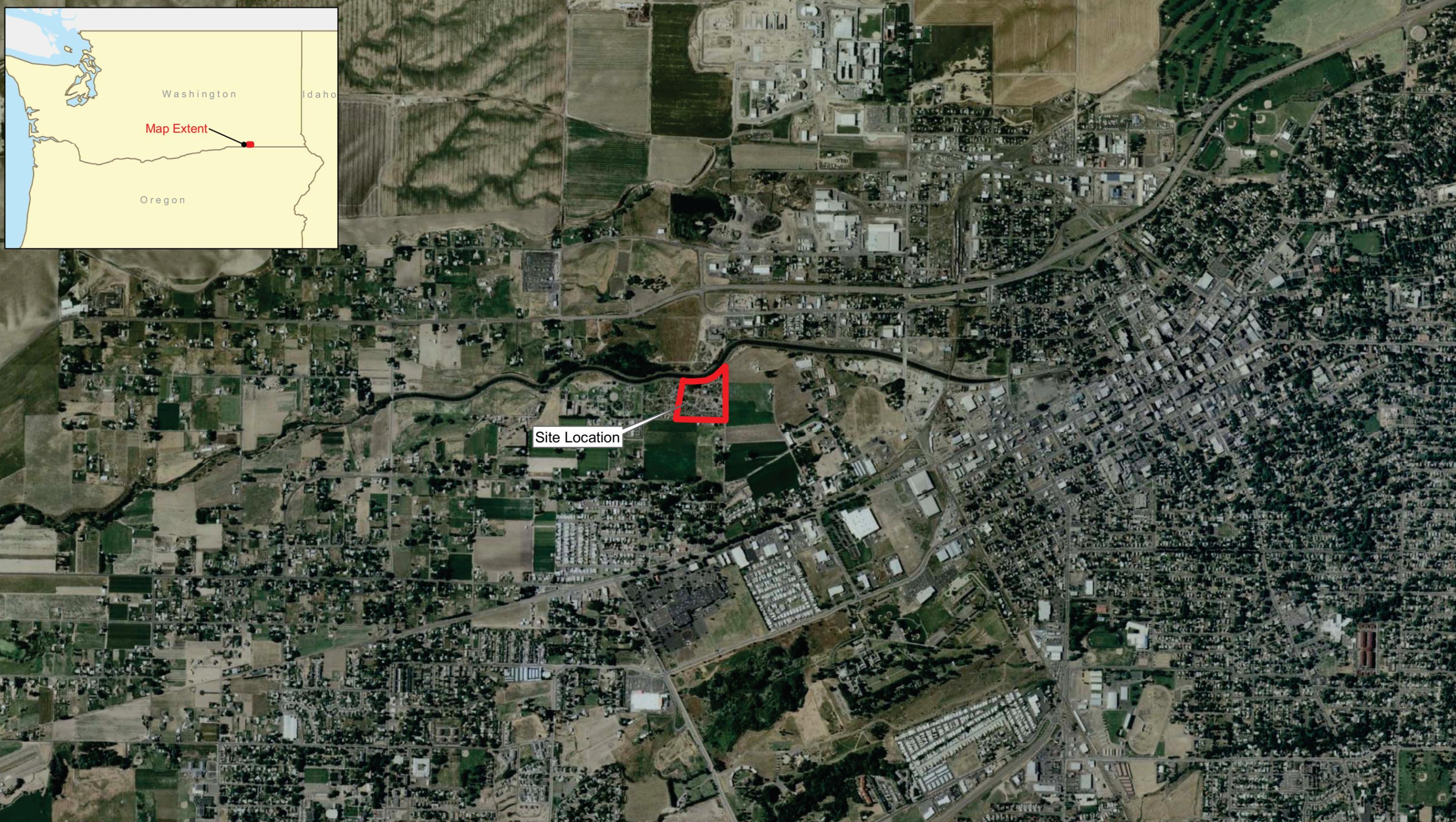
In August 2005, HDR Engineering, Inc. (HDR) conducted a Phase I Environmental Site Assessment (ESA) for the Walla Walla County Department of Public Works. The objective of the ESA was to provide "an independent, professional opinion regarding recognized environmental conditions" at the salvage yard. The ESA consisted of a walk-through of the property, a review of pertinent records for evidence of historical and present use of the subject and adjoining properties, an interview with the current owner as well as local government officials, and an evaluation of gathered information (HDR 2005).

The assessment revealed the following recognized environmental conditions at the property: used oil releases to the ground, improper storage of automobile batteries and containers that previously held hazardous materials, illegal disposal of ash, and unpermitted burning of waste. The Phase 1 ESA documented site condition and history, and reported that some drums and tanks located on the site appeared to be full. Based on the recognized environmental conditions, a Phase II ESA was recommended to include selective soil and groundwater sampling prior to purchasing any portion of the property (HDR 2005).

In February 2006, HDR conducted the Phase II ESA for the Walla Walla County Department of Public Works. The purpose of the Phase II ESA was to determine if contamination existed on the right-of-way property that the county was considering for purchase, which at the time was the western half of the remaining 20-acre property. As part of the Phase II ESA, eight borehole locations (BH-1 through BH-8) were installed. At least three soil samples were collected from each borehole. The sample intervals ranged in depth from 0 to 1 foot below ground surface (bgs) to 14.5 to 15.5 feet bgs. A total of 28 soil samples were collected. Following soil sample collection, groundwater samples were collected from six of the eight boreholes (HDR 2006).

The samples were submitted to an off-site fixed laboratory. The analytical data was compared to Ecology Model Toxics Control Act (MTCA) cleanup levels (Ecology 2007), and groundwater sample results were also compared to federal maximum contaminant levels (MCLs) for tap water. One soil sample indicated concentrations of methylene chloride at concentrations that exceeded cleanup levels, but this contaminant is a known laboratory solvent; no other analytes were detected in soil samples at concentrations that exceeded cleanup levels. Barium and lead were detected at concentrations that exceeded the federal MCLs for each in two groundwater samples, and no other analytes were detected at concentrations above the federal MCLs in groundwater samples (HDR 2006).

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**Legend**

 Site Boundary

0 0.125 0.25 0.5 0.75 1 Miles

**Figure 2-1: Site Location Map**  
**Stubblefield Salvage Yard Site**  
 Walla Walla, Washington



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Source: Google Earth Pro, 2011.



2-7



**Figure 2-2: Site Layout Map**  
**Stubblefield Salvage Yard Site**  
 Walla Walla, Washington



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# 3 Removal Action Description

## 3.1 Removal Action Objectives

On May 6, 2009, an EPA OSC conducted a non-sampling site visit. During this visit, the OSC noted the following conditions:

- Approximately six large electrical transformers, several of which did not have markings identifying them as containing non-PCB oil, and some of which were leaking oil onto the ground;
- The appearance of heavy oil-stained soils in a low area near the hydraulic shear, and other smaller areas of oil-stained soil;
- Over 20 drums with unmarked and unknown contents, some of which were open and/or in rusted or damaged condition, and some of which gave off a distinct solvent odor; and
- Several large open-top tanks, the largest of which was approximately 800 gallons and contained a heavy oily substance.

In May and September 2009, EPA mobilized to the site to perform general site characterization and identify potential source areas. The facility was operating at this time and the release of contamination to the environment was ongoing, as documented by leaking hydraulic fluid from the baler and shredder. Analytical results from site samples indicated the presence of metals, PCBs, pesticides, TPH, and VOCs in drums and metals, PCBs, TPH, and SVOCs in soil. Additionally, damaged siding materials on the shop building and the ground were determined to be ACM. However, the vertical and horizontal extent of contamination in the process area could not be determined due to the presence of heavy machinery and mounds of scrap metal and debris.

Based on observations and data from the May and September 2009 mobilizations, and in reference to information provided by Ecology, the OSC determined the need to conduct a time-critical RA to address hazardous substances in drums and other containers that included PCBs, ignitable materials, and ACM. The first mobilization of the RA was performed in October 2009 to address the hazards identified during the May and September 2009 sampling events (EPA 2009). EPA re-mobilized to the site in April 2012 to remove additional drums of waste that had accumulated since the initial mobilization.

EPA is currently performing an engineering evaluation / cost analysis (EE/CA) of removal alternatives to address surface and subsurface soil contamination in the process area. Pending the results of this EE/CA, a removal action is tentatively scheduled for 2013.

### **3.1.1 October 2009**

EPA performed the first mobilization of the time-critical RA in October 2009 to mitigate the uncontrolled drums and other containers of wastes at the site. EPA also performed a targeted excavation of stained surface soils and removed loose and/or damaged ACM from the site. Specifically, the October 2009 RA mobilization was performed to address the following:

- Waste in drums and other containers: Some drums were identified as containing PCBs during the May 2009 field sampling event. During the October 2009 mobilization, other drums were screened for PCBs and other hazards (E & E 2009a). Drums containing greater than 50 parts per million of PCBs were bulked for disposal as were other hazardous waste streams.
- Lead-contaminated soils: Specific surface soil spill areas were excavated for off-site disposal.
- Pressure cylinders: Pressure cylinders that were scattered on the site were examined to determine if they contained pressurized or otherwise hazardous content.
- Asbestos: In May 2009, ACM siding was observed in poor condition on the shop building, and there was a large pile of ACM panels in the northeast corner of the property. The ACM was consolidated for proper off-site disposal.

### **3.1.2 April 2012**

In April 2012, EPA returned to the site to remove additional drums that were staged at various locations throughout the site. Many of the drums were thought to have been generated and then abandoned during the shut-down of the metal salvaging operations in 2012. The drums were unlabeled, in poor condition, and contained waste oil, other fuels, waste oil-contaminated debris, and unknown contents (E & E 2012b).

# 4 Project Organization, Cost, and Schedule

EPA Region 10 performed two mobilizations of the Stubblefield Salvage Yard time-critical RA in October 2009 and April 2012. This section describes the participating organizations, project costs, and schedule.

## 4.1 Key Organizations and Roles

The RAs were performed by EPA and its contractors:

**On-Scene Coordinator:** Both mobilizations of the time-critical RA were performed under the supervision of an EPA OSC.

**Emergency and Rapid Response Services:** RA cleanup work was performed under the EPA Region 10 Emergency and Rapid Response Services (ERRS) contract by Environmental Quality Management, Inc. (EQM). During the October 2009 mobilization, an asbestos abatement contractor was on site to address the ACM as a subcontractor to ERRS.

**START:** E & E, under an EPA Region 10 START contract, provided on-site technical assistance, collected and submitted environmental samples, and documented site activities.

## 4.2 Project Costs

EPA costs for the RA included ERRS and START. Estimated costs through October 13, 2012, including both 2009 and 2012 mobilizations, are summarized below in Table 4-1.

**Table 4-1 Project Costs**

	<b>Cost to Date (\$)</b>
<b>Extramural Costs</b>	
ERRS	192,896
START-3	115,023
<b>Total</b>	<b>307,919</b>

### 4.3 Final Project Schedule

Table 4-2 summarizes the project schedule during the 2009 and 2012 time-critical RA mobilizations.

**Table 4-2 Project Schedule**

Activity	Date
First mobilization began.	October 12, 2009
First mobilization ended and EPA demobilized from the site.	October 23, 2009
Second mobilization began.	April 9, 2012
Second mobilization ended and EPA demobilized from the site.	April 13, 2012

# 5 Removal Activities

This section summarizes the cleanup and sampling activities conducted as part of the time-critical RA. Through both the RA and the RSE that EPA conducted from 2009-2012, samples of site media were collected and analyzed to guide RA decisions. Sample matrices that supported RA decisions included soil, product, wipe, and bulk material. RSE samples and associated analytical results are summarized in a separate RSE report (E & E 2012a), and RA-specific samples are discussed in the following sections of this report.

The samples were submitted for off-site fixed laboratory analyses of varying combinations of the following analytical parameters: asbestos (phase contrast microscopy [PCM] NIOSH 7400, polarized light microscopy [PLM] EPA SW-846 Method 600), metals (EPA SW-846 Methods 7060A, 6010B, 7421, 7470A, and 7740), PCBs (EPA SW-846 Method 8082), pesticides (EPA SW-846 Method 8081A), total petroleum hydrocarbons (TPH; NWTPH-Dx, -Gx), SVOCs (EPA SW-846 Method 8270C), and volatile organic compounds (VOCs; EPA SW-846 Method 8260B).

## 5.1 October 2009

The first mobilization of the time-critical RA was performed in October 2009 to address surface hazardous substances and contamination, including uncontrolled wastes in drums and ACM. Additionally, because of the ongoing salvage yard operations, EPA identified specific spill locations from the field sampling event in September 2009 for targeted soil removal that presented safe working conditions for field personnel and that were unlikely to be re-contaminated by salvage activities.

### **Mobilization and Demobilization**

ERRS and START mobilized to the site on October 12, 2009, and the EPA OSC arrived on the morning of October 13. Site removal activities began on October 13. ERRS built a staging area for the recovered drums and also set up a site office trailer.

Demobilization began on October 21, when START demobilized. On October 22, ERRS began to decontaminate equipment, and then ERRS demobilized on October 23.

### **Drums, Containers, and Liquid Wastes**

In May 2009, EPA mobilized to the site and collected four product samples and five wipe samples from transformers at the site (E & E 2009d). The product and wipe samples were submitted for PCB analysis; results can be found in Appendix B. EPA also collected eight product samples from drums and submitted those samples for metals, PCBs, pesticides, TPH, SVOC, and VOC analyses, and in September 2009 EPA collected two additional product samples from the baler/shredder for PCB analysis (E & E 2009b). These results can be found in Appendix C. EPA determined that the drums, based on their contents and physical condition, presented a release and a threat of release of hazardous substances to the environment based on their contents and conditions.

In October 2009, ERRS gathered drums from around the site and staged them at the site staging area. ERRS recovered a total of 79 drums, with 60 containing liquid and 19 containing sludge. After the drums were staged, ERRS performed hazard categorization testing on their contents and then consolidated the drum wastes for disposal. In addition to the field hazard categorization testing, ERRS submitted 12 composite samples and three grab samples of product for PCB analysis; seven of the product samples had concentrations of PCBs with a maximum of 17 milligrams per kilogram (mg/kg). A copy of tabulated results can be found in Appendix D.

ERRS also gathered additional hazardous materials from the site, including car batteries from a battery disposal area and various cylinders. Two of the cylinders were identified as containing anhydrous ammonia.

On October 21, 2009, ERRS loaded 650 gallons of non-PCB liquid waste that was classified as recyclable oil into a vacuum truck for off-site recycling. On October 22, the remaining drums were shipped off site, including seven drums of PCB oils and sludge, 11 drums of PCB oils and water, three drums of paint-related material, and 40 yd<sup>3</sup> of non-Toxic Substances Control Act (TSCA) PCB debris to the Clean Harbors facility in Aragonite, Utah, for disposal.

### **Asbestos**

During an EPA sampling event in May 2009, three bulk samples were collected and submitted for asbestos analysis by PLM. One sample collected from siding near the shop building was identified as 15% chrysotile asbestos, but two samples collected from near the kiln were negative for asbestos (E & E 2009c). In a follow-up sampling event in September 2009, two additional bulk samples were collected: one from the dirt access road near the shop building, and another from a suspected ACM pile in the northeast corner of the property. Both samples were submitted for PLM analysis, and both were identified as 15% chrysotile asbestos (E & E 2010b). The three siding samples were considered to be ACM since they contained greater than 1% asbestos and were therefore subject to state and federal regulations for handling and disposal. A table of bulk asbestos results can be found in Appendix E.

On October 14, 2009, the asbestos abatement contractor began to remove damaged ACM siding from the shop building, and the remaining intact ACM siding was also removed to prevent future damage and release. The abatement work was completed on October 16. The abatement contractor also removed friable ACM that was present on the ground.

On October 19, ERRS and the abatement contractor began to address a large pile of friable ACM at the northeast corner of the Site. The ACM was approximately 20 tons of 4-foot by 8-foot corrugated panels of asbestos containing cement that had been received at the site in the past. Since that time, the panels had become broken and intermingled with metal scrap and dirt that had been piled over the asbestos panels. With the assistance of the asbestos workers, ERRS used heavy equipment to segregate the scrap metal and non-contaminated material from the pile of ACM panels and asbestos-contaminated soil. The ACM waste was loaded into roll-off containers, and a total of 150 yd<sup>3</sup> of ACM waste was sent off site for disposal on October 22.

### **Contaminated Soil**

EPA identified several site "hot spots" of surface soil contamination based on analytical results from samples collected in September 2009. Soil samples were submitted for off-site fixed laboratory analyses of the following analytical parameters: metals, PCBs, pesticides, TPH, and SVOCs. A table of soil sample results specific to the time-critical RA can be found in Appendix F.

The areas selected for excavation and off-site disposal were identified based on analytical results from the September 2009 sampling event along with visual observations (i.e., visibly stained soil) and field screening with a field-portable X-ray fluorescence (XRF) instrument. For the purpose of identifying and delineating contaminated soil areas for excavation, XRF results for lead were compared to the MTCRA cleanup level for industrial properties of 1,000 mg/kg. EPA identified three areas of surface soil contamination for excavation and off-site disposal, including one area of surface soil contamination associated with a broken battery storage area. The three areas were targeted in part because they were located away from the ongoing salvage operations and therefore presented safe working conditions for field personnel and were unlikely to be re-contaminated by salvage activities. In particular, EPA did not address contamination in the process area at this time because of the high likelihood of re-contamination from the baler/shredder equipment and other salvage yard operations.

Beginning on October 17, 2009, ERRS excavated surface soil from these contaminated areas to a maximum depth of approximately 1 foot. During excavation, START used the XRF to confirm that the cleanup goal of 1,000 mg/kg for lead was obtained. A total of approximately 75 yd<sup>3</sup> of contaminated soil was excavated from the three locations and temporarily staged on site. On October 21, ERRS loaded the contaminated soil into five trucks for off-site disposal.

### **Air Monitoring**

Throughout site removal activities, and especially the asbestos abatement and cleanup activities, START collected air samples to ensure that work areas were safe for site workers and nearby residents and passers-by. The results of the air sampling and monitoring indicated that airborne asbestos concentrations were below site action limits of 0.1 fibers per cubic centimeter as defined by the Occupational Safety and Health Administration permissible exposure limit. Air sampling data can be found in Appendix G.

## **5.2 April 2012**

In April 2012, EPA mobilized to the site to remove additional drums that were staged at various locations throughout the site. Many of the drums were thought to have been generated and then abandoned during the shut-down of metal salvaging operations in 2010. The drums were unlabeled, in poor condition, and contained waste oil, other fuels, waste oil-contaminated debris, and other unknown contents. Additionally, evidence of leaking and/or spills had been observed in the adjacent surface soil near many of these drums.

### **Mobilization and Demobilization**

EPA and its contractors arrived on site on April 9, 2012, and worked through April 13.

### **Drums, Containers, and Soil**

EPA mobilized to the site in June 2011 as part of the removal site evaluation and identified approximately 50 drums of oil, asphalt, investigation-derived waste, and unknown material. In April 2012, EPA mobilized to the site to remove the previously identified drums, but upon arrival approximately 60 drums were encountered. The additional drums were of unknown origin and may have been abandoned by people unrelated to the site.

Many of the drums were previously labeled by a contractor retained by the operators of Stubblefield Salvage; however, the labels had faded or disintegrated due to age and exposure to the elements. Because most of the labels were illegible or missing, START sampled and performed modified hazard categorization analysis to assist ERRS in assigning waste categories to the contents of the drums (E & E 2012b). In addition to the field hazard categorization testing, ERRS submitted 16 composite samples and five grab samples of product for PCB analysis; results can be found in Appendix H.

From April 10-11, ERRS consolidated and over-packed the drums into steel salvage drums and staged the wastes into the appropriate waste streams. ERRS also surveyed the site and recovered drums of oily soil and waste liquid from a number of other areas of the site. In total, approximately 65 drums of oily liquid and solid waste were recovered and, when possible, bulked into the steel salvage drums. One 300-gallon polyethylene container of malathion pesticide also was emptied into six salvage drums and staged for disposal. ERRS crushed the empty containers with an excavator bucket, and then placed them into a 20 yd<sup>3</sup> roll-off container for disposal. Once the drums were removed from the locations where they had been found, ERRS used an excavator to scrape areas of obviously contaminated soil. Excavated soil and investigation-derived waste (personal protective equipment [PPE], etc.) was also placed into the roll-off container with the crushed drums for off-site disposal.

ERRS also picked up and prepared for disposal five drums of purge water from monitoring well installation and decontamination water from previous EPA investigations. A total of seven drums of soil cuttings generated during monitoring well installation were emptied into the roll-off container and then crushed for disposal.

Disposal metrics for the April 2012 removal action include approximately 20 yd<sup>3</sup> of non-Resource Conservation and Recovery Act (RCRA) solid waste. On April 12, 2012, a total of 61 drums, including six drums of pesticide, six drums of liquid flammable waste, 18 drums of waste oil with lead, 13 drums of waste oil, 10 drums of liquid hazardous waste (not otherwise specified), and eight drums of solid hazardous waste (not otherwise specified), along with approximately 20 yd<sup>3</sup> of non-RCRA solid waste, was loaded on to a truck and sent to the US Ecology facility in Grandview, Idaho, for disposal.

### **Investigation and Cleanup of Northwest Swale Area**

Following the off-site transportation of drums for disposal, ERRS used an excavator to clear brush and debris from a wooded swale area in the northwest corner of the property near the

former processing area. EPA had previously observed drums in this area and samples collected during the RSE had indicated the presence of elevated concentrations of site contaminants. ERRS moved dozens of tires from this area to allow access and then recovered scrap metal, household trash, and other debris along with five 55-gallon drums that were without significant content. ERRS crushed the drums and placed them into a 20 yd<sup>3</sup> roll-off container along with the trash and debris. This roll-off container was transported off site for disposal as non-RCRA debris on April 13, 2012. Following these removal activities in the swale, START collected two composite surface soil samples for analytical testing to assist with characterizing soil contamination for the RSE, which is discussed in a separate RSE report (E & E 2012a).

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## **6 Post-Removal Site Controls**

EPA is currently performing an EE/CA to evaluate removal alternatives to address the contaminated surface and subsurface soil in the process area, and a removal action to address this area is tentatively planned for 2013. The need for any post-removal site controls will be determined following that removal action.

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# 7 Waste Management, Transportation, and Disposal Activities

Site wastes were transported off site for disposal during both the October 2009 and April 2012 mobilizations of the RA. A summary of these waste streams and final disposition locations is provided below. Copies of available waste disposal records are provided in Appendix I.

**Table 7-1 Waste Disposal**

<b>Waste Stream</b>	<b>Mobilization</b>	<b>Quantity</b>	<b>Waste Destination</b>
Non-RCRA Lead Soils	October 2009	75 yd <sup>3</sup>	Clean Harbors, Aragonite, Utah
Asbestos Waste	October 2009	150 yd <sup>3</sup>	Clean Harbors, Aragonite, Utah
PCB Oils and Sludge	October 2009	7 drums	Clean Harbors, Aragonite, Utah
PCB Oils and Water	October 2009	11 drums	Clean Harbors, Aragonite, Utah
Non-TSCA PCB Debris	October 2009	40 yd <sup>3</sup>	Clean Harbors, Aragonite, Utah
Paint-Related Material	October 2009	3 drums	Clean Harbors, Aragonite, Utah
Non-PCB Oil	October 2009	650 gallons	Clean Harbors, Aragonite, Utah
Malathion Pesticide	April 2012	6 drums	US Ecology, Grandview, Idaho
Waste Flammable Liquid	April 2012	6 drums	US Ecology, Grandview, Idaho
Waste Oil with Lead	April 2012	18 drums	US Ecology, Grandview, Idaho
Waste Oil	April 2012	13 drums	US Ecology, Grandview, Idaho
Hazardous Waste Liquid, not otherwise specified	April 2012	10 drums	US Ecology, Grandview, Idaho
Hazardous Waste Solid, not otherwise specified	April 2012	8 drums	US Ecology, Grandview, Idaho
Non-RCRA Solid Waste	April 2012	20 yd <sup>3</sup>	US Ecology, Grandview, Idaho

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# 8 Quality Assurance/Quality Control

Quality assurance/quality control (QA/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 *Contract Laboratory Program Statement of Work for Organic Analyses* (EPA 2007) and the *Contract Laboratory Program Statement of Work for Inorganic Analyses* (EPA 2011). These QC requirements or equivalent requirements found in the analytical methods were followed for analytical work on the project. This section describes the QA/QC measures taken for the project and provides an evaluation of the usability of data presented in this report.

Data from the START-subcontracted commercial laboratories were reviewed and validated by a START chemist. Data qualifiers were applied as necessary according to the following guidance:

- EPA (2008) *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*.
- EPA (2010) *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review*.

In the absence of other QC guidance, method- and/or standard operating procedure-specific QC limits were also utilized to apply qualifiers to the data.

## 8.1 Satisfaction of Data Quality Objectives

The following EPA (EPA 2000) guidance document was used to establish data quality objectives (DQOs) for this project:

- *Guidance for the Data Quality Objectives Process* (EPA QA/G-4), EPA/600/R-96/055.

EPA determined that definitive data without error and bias determination would be used for the sampling and analyses conducted during the field activities. The data quality achieved during the field work produced sufficient data that met the DQOs stated in the site specific sampling plans (SSSPs; E & E 2012b, 2009a, 2009b, 2009d). A detailed discussion of accomplished project objectives is presented in the following sections.

## 8.2 Quality Assurance/Quality Control Samples

Rinsate blank QA samples were collected for each 20 samples collected using non-dedicated sampling equipment. One trip blank QA sample was collected for each sample cooler that contained samples to be analyzed for volatile organic compounds. QC samples included matrix spike/matrix spike duplicate (MS/MSD) and/or blank spike (BS) samples at a rate of one MS/MSD and/or BS per 20 samples per matrix.

## 8.3 Project-Specific Data Quality Objectives

The laboratory data were reviewed to ensure that DQOs for the project were met. The following describes the laboratories' abilities 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 DQOs for the project.

### **8.3.1 Precision**

Precision measures the reproducibility of the sampling and analytical methodology. 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 commercial laboratory samples. A total of 13 sample results (approximately 0.3% of the data) were qualified based on precision outliers; therefore the project DQO for precision of 90% was met.

### **8.3.2 Accuracy**

Accuracy indicates the conformity of the measurements to fact. Laboratory accuracy is defined as the surrogate spike percent recovery (%R) or the MS/MSD/BS %Rs for all laboratory analyses. The surrogate %R values were reviewed for all appropriate sample analyses. A total of 123 sample results (approximately 3.1% of the date) were qualified based on surrogate outliers; therefore, the project DQO for accuracy of 90% was met.

The %R values were reviewed for all MS/MSD/BS analyses. A total of 206 sample results (approximately 5.2% of the data) were qualified based on accuracy outliers; therefore, the project DQO for accuracy of 90% was met.

### **8.3.3 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. No sample results were rejected; therefore, the project DQO for completeness of 90% was met.

### **8.3.4 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 was met.

### **8.3.5 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 was met.

## **8.4 Laboratory Quality Assurance/Quality Control Parameters**

The laboratory data also were reviewed for holding times/temperatures/sample containers, laboratory blank samples, serial dilution analyses, rinsate blanks, and trip blanks. These QA/QC parameters are summarized below.

### **8.4.1 Holding Times/Temperatures**

All holding times, temperatures and sample containers were acceptable.

#### 8.4.2 Laboratory Blanks

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

- Inorganics: Antimony, calcium, chromium, copper, iron, manganese, potassium, silver.
- SVOCs: Bis(2-ethylhexyl)phthalate, di-n-butylphthalate.
- VOCs: Acetone, 2-butanone, methylene chloride, n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene.

See the data validation memoranda for results qualified based on blank contamination.

#### 8.4.3 Serial Dilution Analysis

Serial dilution analyses met the frequency criteria. A total of 95 sample results (approximately 2.4% of the data) were qualified based on serial dilution outliers.

#### 8.4.4 Rinsate Blanks

Rinsate blank analyses were performed at a frequency of one per 20 samples collected using non-dedicated sampling equipment. There were no detections in the rinsate blank analyses except fluoranthene (0.13 micrograms per liter [ $\mu\text{g/L}$ ]), pyrene (0.14  $\mu\text{g/L}$ ), benzo(a)anthracene (0.12  $\mu\text{g/L}$ ), chrysene (0.13  $\mu\text{g/L}$ ), benzo(b) fluoranthene (0.13  $\mu\text{g/L}$ ), benzo(k)fluoranthene (0.04  $\mu\text{g/L}$ ), benzo(a)pyrene (0.085  $\mu\text{g/L}$ ), indeno(1,2,3-cd)pyrene (0.036  $\mu\text{g/L}$ ), dibenzo(a,h)anthracene (0.14  $\mu\text{g/L}$ ), and benzo(g,h,i)perylene (0.039  $\mu\text{g/L}$ ) in the September 10, 2009, rinsate blank. No qualifications were applied based on these low concentration (all less than 0.2 parts per billion) rinsate blank results.

#### 8.4.5 Trip Blanks

Trip blank analyses were performed at a frequency of one per cooler containing samples to be analyzed for volatile organic compounds. There were no detections in the trip blank analyses.

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## 9 Community Relations

Throughout the RA, EPA maintained communications with local government agencies such as Ecology and officials from Walla Walla County and the City of Walla Walla, along with the public. EPA maintained a publically accessible website for the removal action at [www.epaosc.org/StubblefieldSalvage](http://www.epaosc.org/StubblefieldSalvage) and produced periodic pollution reports (POLREPs). Copies of the POLREPs are included in Appendix J.

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# 10 Health and Safety

The OSC maintained ultimate authority and responsibility for site safety during the RA. ERRS and START each developed a site-specific health and safety plan. The OSC conducted a general site safety meeting at the beginning of each RA mobilization to establish the health and safety procedures for the site. Daily safety meetings were conducted at the beginning of each day of site work and the meetings were attended by all personnel present, including the OSC, ERRS, and START. During the daily safety meetings, site personnel discussed the planned activities for that day and any task-specific health and safety issues. The daily safety meeting also included a review of any health and safety issue from the previous day and any relevant air monitoring data.

The physical hazards at the site included uneven terrain, metal scrap and debris, overgrown vegetation, and heavy equipment (e.g., excavators and trucks). The minimum level of PPE for the site was Level D, including safety glasses, hard hat, safety vest, and steel-toed safety shoes.

Chemical hazards associated with the site included unknown chemicals and hazardous materials in drums, including PCBs and ignitable materials. Additional contaminants known to be present at the site included asbestos, metals (i.e., lead), PAHs, petroleum hydrocarbons, and pesticides. For site work involving asbestos, EPA established an exclusion zone around each work area in which ACM or asbestos-contaminated soil was handled or disturbed, and site personnel working in these exclusion zones wore Level C PPE, including respirators with high-efficiency particulate air cartridges. Additionally, ERRS used water from water trucks for dust and airborne asbestos fiber suppression.

The results of air sampling (personal and ambient) and dust monitoring indicated that the Site activities were performed in a manner that was safe for site personnel, nearby residents, and passers-by. Copies of the air sampling data, along with all other RA-related data, can be found in Appendix K.

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# 11 Difficulties Encountered/ Recommendations

EPA encountered no issues that prevented or adversely impacted the successful completion of cleanup activities. However, EPA and its contractors overcame several challenges in completing the RA, as discussed below.

During the October 2009 mobilization of the RA, the site was an operating metals salvage yard and recycling business. Scrap metal was continuously brought to the site and moved around with heavy equipment by site workers. In addition to the challenge of working around the facility salvage activities, EPA and its contractors were also challenged by overgrown vegetation and numerous large debris piles, which made large portions of the site inaccessible and also hampered site removal activities.

Also during the October 2009 mobilization of the RA, the OSC heard allegations that the facility owners may have improperly buried drums of waste materials, including PCBs, on former facility property that is now located to the west of the newly constructed Myra Road. EPA considered the Myra Road site to be a separate site from the Stubblefield Salvage Yard Site and completed that investigation in 2009 (E & E 2010a).

During the April 2012 mobilization, the salvage yard was no longer in operation and the site had been abandoned. While there was no longer any risk posed to EPA and its contractors by salvage yard operations, there were still physical hazards posed by debris and overgrown vegetation. During the second mobilization, the drum labels that had been affixed by a salvage yard contractor had been worn away or had become illegible, which required additional hazard categorization of the drum contents. Additionally, it appeared that the site has been used for illegal dumping which may have explained the origin of some of the additional drum contents. To prevent similar dumping in the future, EPA crushed and removed empty drums from the site.

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# 12 Summary and Conclusions

In October 2009 and April 2012, EPA performed an RA at the Stubblefield Salvage Yard Site in Walla Walla, Washington, to mitigate the threat posed to site workers, visitors, and nearby residents. The RA consisted of two mobilizations and focused on the mitigation of uncontrolled and leaking drums, friable ACM siding and panels, and stained soil.

In October 2009, EPA mobilized to the site, which was an active salvage yard at the time, to categorize and consolidate the drum contents which resulted in 650 gallons of non-PCB oil sent for recycling. The remaining material, including seven drums of PCB oils and sludge, 11 drums of PCB oils and water, three drums of paint-related material, and 40 yd<sup>3</sup> of non-TSCA PCB debris, was shipped off site for disposal. Friable ACM siding was removed from the shop building and a nearby area, and approximately 20 tons of ACM panels was segregated from a debris pile. On October 22, 2009, a total of 150 yd<sup>3</sup> of ACM waste was sent off site for disposal. In addition, EPA identified three areas of stained soil and completed a targeted removal of 75 yd<sup>3</sup> of lead-contaminated soil which was also transported off site for disposal.

In April 2012, EPA mobilized to the site to categorize and consolidate additional drums that were generated during the shut-down and abandonment of the salvage yard facility. EPA consolidated the contents of the remaining drums and containers into 61 drums with six different waste streams which, along with 20 yd<sup>3</sup> of non-RCRA solid waste, was sent off site to a disposal facility. Before demobilizing from the site EPA crushed and removed any remaining empty drums that may pose an attractive nuisance to illegal dumpers.

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# 13 References

- E & E (Ecology and Environment, Inc.), September 2012a, *Removal Site Evaluation Report for Stubblefield Salvage Yard*, prepared for the United States Environmental Protection Agency, Seattle, Washington, under Contract No. EP-S7-06-02, TDD No. 11-06-0008.
- , March 2012b, *Final Site Specific Sampling Plan for Stubblefield Salvage Yard*, prepared for the United States Environmental Protection Agency, Seattle, Washington, under Contract No. EP-S7-06-02, TDD No. 11-11-0003.
- , May 2010a, *Trip Report for Myra Road Site*, prepared for the United States Environmental Protection Agency, Seattle, Washington, under Contract No. EP-S7-06-02, TDD No. 09-10-0006.
- , March 2010b, *Revised Technical Memorandum: Alternatives Evaluation for Stubblefield Salvage Yard*, prepared for the United States Environmental Protection Agency, Seattle, Washington, under Contract No. EP-S7-06-02, TDD No. 09-09-0010.
- , November 2009a, *Final Site Specific Sampling Plan for Stubblefield Salvage Yard*, prepared for the United States Environmental Protection Agency, Seattle, Washington, under Contract No. EP-S7-06-02, TDD No. 09-09-0010.
- , September 2009b, *Final Site Specific Sampling Plan for Stubblefield Salvage Yard*, prepared for the United States Environmental Protection Agency, Seattle, Washington, under Contract No. EP-S7-06-02, TDD No. 09-09-0010.
- , August 2009c, *Technical Memorandum for Stubblefield Salvage Yard*, prepared for the United States Environmental Protection Agency, Seattle, Washington, under Contract No. EP-S7-06-02, TDD No. 09-05-0006.
- , June 2009d, *Final Site Specific Sampling Plan and Sampling Plan Alteration Form for Stubblefield Salvage Yard*, prepared for the United States Environmental Protection Agency, Seattle, Washington, under Contract No. EP-S7-06-02, TDD No. 09-05-0006.
- Ecology (Washington State Department of Ecology), 2007, Model Toxics Control Act Statute and Regulation, Publication No. 94-06 Revised November 2007.
- EPA (United States Environmental Protection Agency), September 2011, *USEPA Contract Laboratory Program Statement of Work for Inorganic Superfund Methods, Multi-Media, Multi-Concentration, ISM01.3*.
- , January 2010, *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review*, OSWER 9240.1-51, EPA 540-R-10-011.
- , September 2009, *Action Memorandum Subject Time-Critical Removal Action at the Stubblefield Salvage Site*, On-Scene Coordinator, Emergency Response Unit United States Environmental Protection Agency to Linda Anderson Carnahan, Acting Director Office of Environmental Cleanup United States Environmental Protection Agency, September 4, 2009.

- , June 2008, *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, OSWER 9240.1-48, USEPA-540-R-08-01.
- , April 2007, *USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration, SOM01.2*.
- , August 2000, *Guidance for the Data Quality Objectives Process*, EPA QA/G-4, Office of Research and Development, Washington, D.C., EPA/600/R-96/055.
- HDR (HDR Engineering, Inc.), February 2006, *Phase II Environmental Site Assessment for Stubblefield Salvage Yard Myra Road Extension Project*, prepared for Walla Walla County Department of Public Works.
- , August 2005, *Phase I Environmental Site Assessment of Myra Road Extension Project Salvage Yard*, prepared for Walla Walla County Department of Public Works.
- WA v. Stubblefield (Prosecuting Attorney for Walla Walla County v. Emory Stubblefield et al.), August 16, 1949, Appeal from a judgment of the superior court for Walla Walla County.
- Walla Walla County Assessor's Office, Accessed July 17, 2012.  
<http://wallawallawa.taxesifter.com/taxesifter/t-assessor.asp?pid=350724440024>.

# A Photographs

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Photo 1 Advertisement for Stubblefield Salvage Yard.

Direction: East

May 2009 Sampling Event



Photo 2 Unmanaged drums and scrap material with shop building in the background.

Direction: West

May 2009 Sampling Event



Photo 3 Leaking drums and stained soil in the drum field.

Direction: Closeup

May 2009 Sampling Event



Photo 4 Drums without bungs in the drum field.

Direction: Southwest

May 2009 Sampling Event



Photo 5 Open container of oily liquid in the drum field.

Direction: Closeup

May 2009 Sampling Event

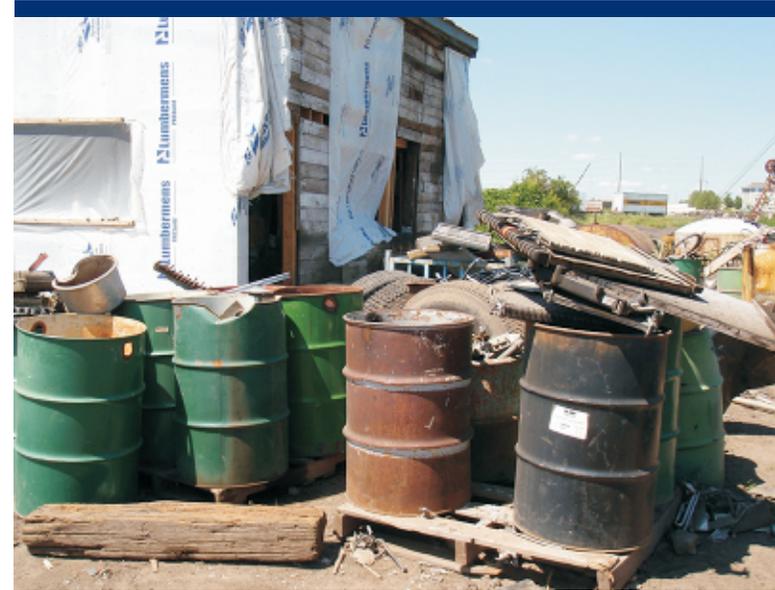


Photo 6 Drums near the shop building.

Direction: North

May 2009 Sampling Event



Photo 7 Drums with unknown contents in the drum field.

Direction: Closeup

May 2009 Sampling Event



Photo 8 Drum with lubricants.

Direction: Closeup

May 2009 Sampling Event

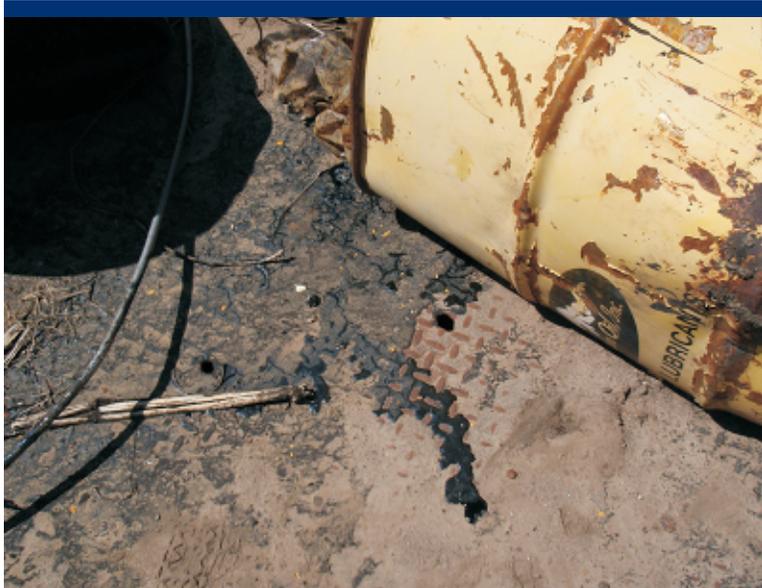


Photo 9 Leaking drum on its side.

*Direction: Closeup*

*May 2009 Sampling Event*



Photo 10 Oily drums in the drum field.

*Direction: North*

*May 2009 Sampling Event*

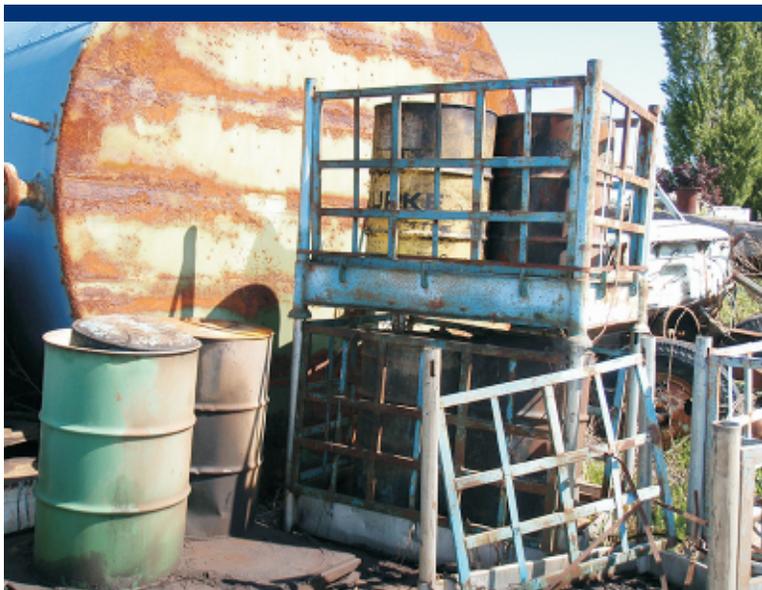


Photo 11 Stacked drums in the drum field.

*Direction: Northeast*

*May 2009 Sampling Event*



Photo 12 Uncovered and damaged drums in the drum field.

*Direction: East*

*May 2009 Sampling Event*

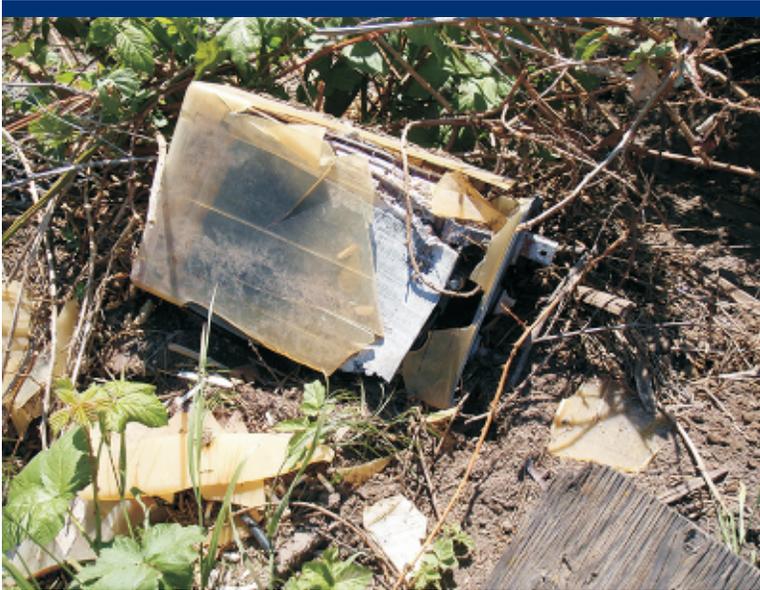


Photo 13 Crushed car battery.

*Direction: Closeup*

*May 2009 Sampling Event*



Photo 14 Friable ACM on the ground at the shop building.

*Direction: Closeup*

*May 2009 Sampling Event*



Photo 15 Transformers.

*Direction: Northwest*

*May 2009 Sampling Event*



Photo 16 Leaking transformers.

*Direction: North*

*May 2009 Sampling Event*



Photo 17 Leaking transformers.

*Direction: Southeast*

*May 2009 Sampling Event*



Photo 18 Sampling transformer oil.

*Direction: North*

*May 2009 Sampling Event*



Photo 19 Sampling transformer oil.

*Direction: Closeup*

*May 2009 Sampling Event*



Photo 20 Collecting product samples from hydraulic equipment.

*Direction: Closeup*

*September 2009 Sampling Event*



Photo 21 Collecting product samples from hydraulic equipment.

*Direction: Closeup*

*September 2009 Sampling Event*



Photo 22 Stained soil near the drums with residence in the background.

*Direction: Northeast*

*September 2009 Sampling Event*



Photo 23 Collecting surface soil samples in the drum field.

*Direction: East*

*September 2009 Sampling Event*



Photo 24 ERRS finding and consolidating drums on visqueen.

*Direction: Southwest*

*October 2009 Sampling Event*



Photo 25 ERRS finding and consolidating drums on visqueen.

*Direction: Southeast*

*October 2009 Sampling Event*



Photo 26 Drum DF06-03 with TSCA regulated PCBs.

*Direction: North*

*October 2009 Sampling Event*



Photo 27 Drums collected from around the site and staged by ERRS.

*Direction: Southeast*

*October 2009 Sampling Event*



Photo 28 Forklift bringing drum to staging area.

*Direction: South*

*October 2009 Sampling Event*



Photo 29 ERRS consolidating like materials in drums.

*Direction: Southwest*

*October 2009 Sampling Event*



Photo 30 ERRS cutting up drums for disposal.

*Direction: East*

*October 2009 Sampling Event*



Photo 31 Drums cut for disposal.

*Direction: East*

*October 2009 Sampling Event*



Photo 32 ERRS crushing drums for disposal.

*Direction: Southwest*

*October 2009 Sampling Event*



Photo 33 Shop building with ACM siding.

*Direction: Southeast*

*October 2009 Sampling Event*

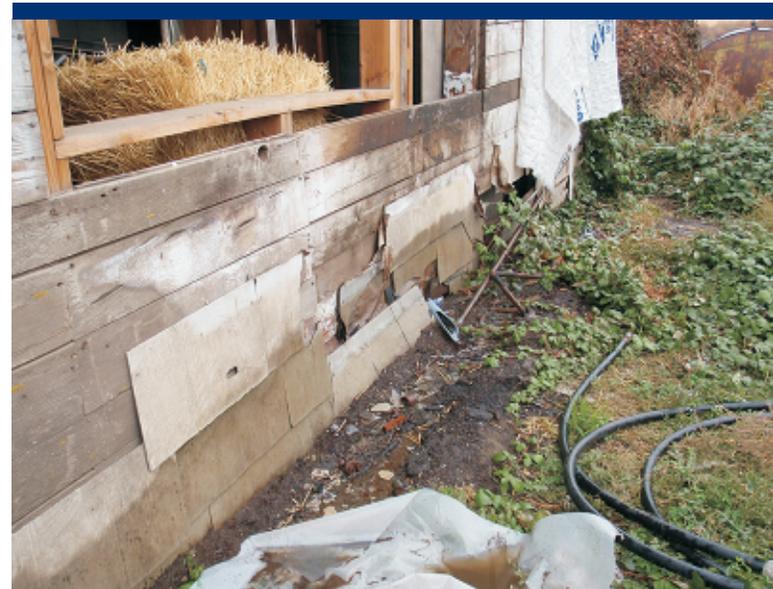


Photo 34 ACM siding on the shop building.

*Direction: Closeup*

*October 2009 Sampling Event*



Photo 35 Asbestos abatement crew removing ACM siding from shop building.

*Direction: South*

*October 2009 Sampling Event*



Photo 36 Asbestos abatement crew removing ACM siding from shop building.

*Direction: South*

*October 2009 Sampling Event*



Photo 37 Asbestos abatement crew removing ACM siding from shop building.

*Direction: West*

*October 2009 Sampling Event*



Photo 38 Asbestos abatement crew removing ACM siding from shop building.

*Direction: Northwest*

*October 2009 Sampling Event*



Photo 39 Soil and metal mixed with ACM panels in the northeast corner of the site.

*Direction: Northwest*

*October 2009 Sampling Event*



Photo 40 ACM panels in the northeast corner of the site.

*Direction: Closeup*

*October 2009 Sampling Event*



Photo 41 Placing ACM in the loader for transportation to the roll off containers.

*Direction: North*

*October 2009 Sampling Event*



Photo 42 ACM wrapped in a roll off container.

*Direction: Closeup*

*October 2009 Sampling Event*



Photo 43 ACM shipped off site for disposal.

Direction: East

October 2009 Sampling Event



Photo 44 Asbestos air sample.

Direction: East

October 2009 Sampling Event



Photo 45 Asbestos and dust sampling equipment.

Direction: Closeup

October 2009 Sampling Event

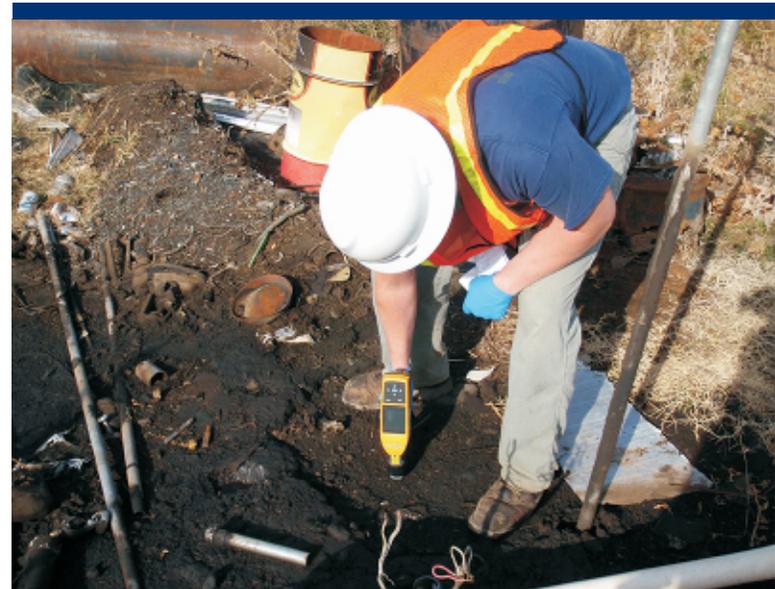


Photo 46 START screening soils for heavy metals with the XRF.

Direction: Closeup

October 2009 Sampling Event



Photo 47 Screening the swale for metals with the XRF.

*Direction: South*

*October 2009 Sampling Event*

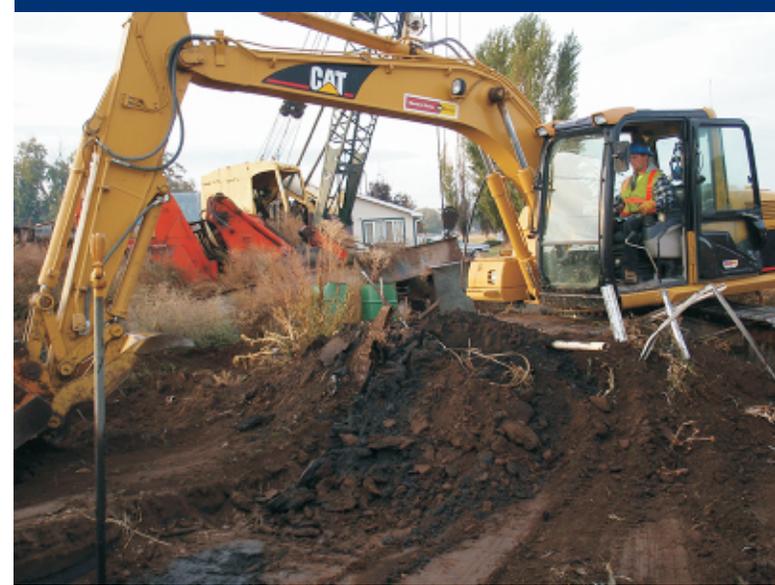


Photo 48 Excavating lead contaminated soil.

*Direction: West-Southwest*

*October 2009 Sampling Event*



Photo 49 Stained soil in the drum field.

*Direction: Closeup*

*October 2009 Sampling Event*



Photo 50 Excavation of surface soil at the swale.

*Direction: West*

*October 2009 Sampling Event*



Photo 51 Excavation of surface soil at the swale.

Direction: Northwest

October 2009 Sampling Event



Photo 52 Placing soil from an excavation into a truck for disposal off site.

Direction: West

October 2009 Sampling Event



Photo 53 Drums and containers generated during abandonment of site operations.

Direction: South

June 2011 Sampling Event



Photo 54 Drums with waste pending analysis.

Direction: Closeup

June 2011 Sampling Event



Photo 55 Drums and containers generated during abandonment of site operations.

*Direction: East*

*June 2011 Sampling Event*



Photo 56 Open container of oily substance in the drum field.

*Direction: Closeup*

*June 2011 Sampling Event*



Photo 57 ERRS collecting drums for overpacking and staging.

*Direction: South*

*April 2012 Sampling Event*



Photo 58 Drums with illegible writing on duct tape.

*Direction: Closeup*

*April 2012 Sampling Event*



Photo 59 Drums staged on the scale for overpacking.

Direction: East

April 2012 Sampling Event



Photo 60 Empty overpack drums staged on site.

Direction: South

April 2012 Sampling Event



Photo 61 Drum with oily contents overpacked and staged.

Direction: Closeup

April 2012 Sampling Event



Photo 62 START collecting sample from overpacked drum for hazard categorization.

Direction: Closeup

April 2012 Sampling Event

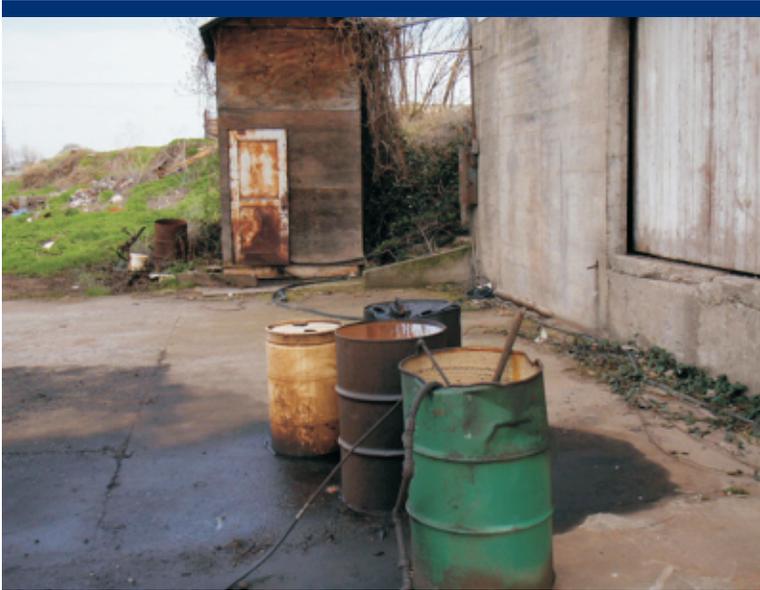


Photo 63 Abandoned and leaking drums at the north side of the shop building.  
*Direction: East* *April 2012 Sampling Event*



Photo 64 START collecting sample from drum for hazard categorization.  
*Direction: Southeast* *April 2012 Sampling Event*



Photo 65 Overpacked drums staged for transportation to disposal facility.  
*Direction: West* *April 2012 Sampling Event*



Photo 66 Loading overpacked drums for transportation to disposal facility.

*Direction: West*

*April 2012 Sampling Event*



Photo 67 Staging area after all overpacked drums were sent off site for disposal.

*Direction: Southwest*

*April 2012 Sampling Event*



Photo 68 ERRS crushing empty drums prior to disposal.

*Direction: Southwest*

*April 2012 Sampling Event*



Photo 69 ERRS loading empty drums in roll off.

*Direction: Southwest*

*April 2012 Sampling Event*

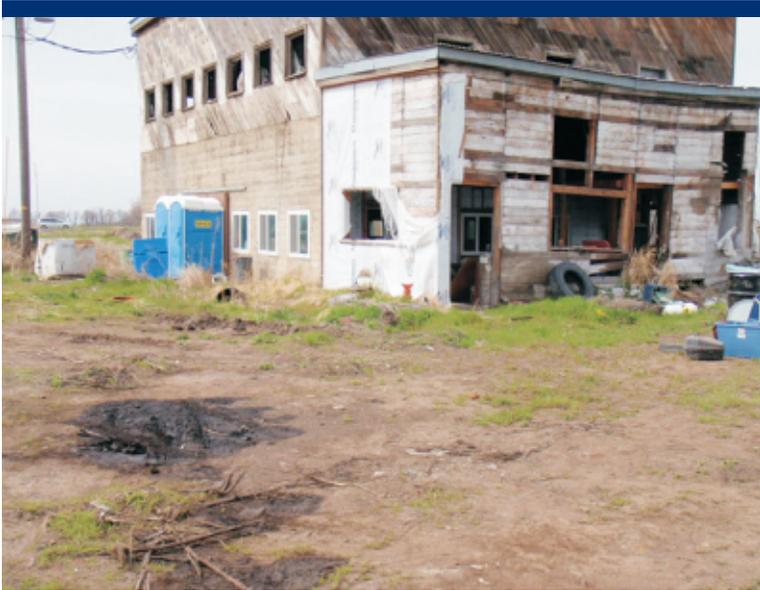


Photo 70 Stained soil near the southeast corner of the shop building.

*Direction: Northwest*

*April 2012 Sampling Event*



Photo 71 Excavating stained soil near the shop building.

*Direction: East*

*April 2012 Sampling Event*



Photo 72 Excavator accessing southern edge of swale.

*Direction: East*

*April 2012 Sampling Event*

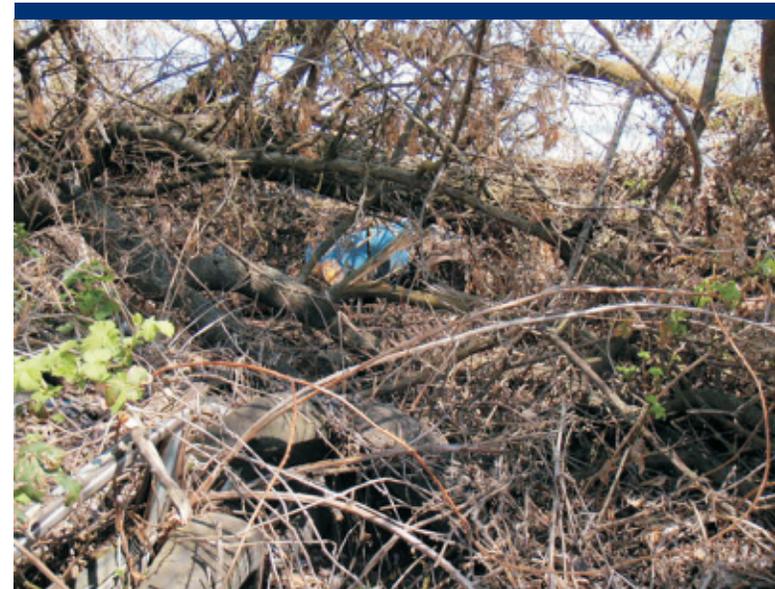


Photo 73 Debris and vegetation in the swale.

*Direction: Closeup*

*April 2012 Sampling Event*



Photo 74 View of cleared area in the swale for soil sample collection.

*Direction: Northwest*

*April 2012 Sampling Event*



Photo 75 Debris removed from swale.

*Direction: Closeup*

*April 2012 Sampling Event*

# **B May 2009 Transformer Sample Results**

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**Appendix B. May 2009 Transformer Sample Results (Page 1 of 1)**

EPA Sample ID	TSCA <sup>1</sup>	09-05-0707	09-05-0708	09-05-0709	09-05-0710	09-05-0711
Sample Location		Wipe W-01	Wipe W-02	Wipe W-03	Wipe W-04	Wipe W-05
Sample Collection Event		May-09	May-09	May-09	May-09	May-09
<b>PCBs (µg/wipe)</b>						
Aroclor-1016	10 µg/100 cm <sup>2</sup>	2.4 U				
Aroclor-1221	10 µg/100 cm <sup>2</sup>	2.4 U				
Aroclor-1232	10 µg/100 cm <sup>2</sup>	2.4 U				
Aroclor-1242	10 µg/100 cm <sup>2</sup>	2.4 U				
Aroclor-1248	10 µg/100 cm <sup>2</sup>	2.4 U				
Aroclor-1254	10 µg/100 cm <sup>2</sup>	2.4 U				
Aroclor-1260	10 µg/100 cm <sup>2</sup>	2.4 U				

EPA Sample ID	TSCA <sup>1</sup>	09-05-0712	09-05-0714	09-05-0715	09-05-0716
Sample Location		Product OE-01	Product OE-09	Product OE-11	Product OE-02
Sample Collection Event		May-09	May-09	May-09	May-09
<b>PCBs (mg/kg)</b>					
Aroclor-1016	50	5 U	4.7 U	5.2 U	5 U
Aroclor-1221	50	5 U	4.7 U	5.2 U	5 U
Aroclor-1232	50	5 U	4.7 U	5.2 U	5 U
Aroclor-1242	50	5 U	4.7 U	5.2 U	5 U
Aroclor-1248	50	5 U	4.7 U	5.2 U	5 U
Aroclor-1254	50	5 U	4.7 U	5.2 U	5 U
Aroclor-1260	50	5 U	4.7 U	5.2 U	5 U

**Note:**

1 = Based on 40 CFR 761.

**Key:**

CFR = Code of Federal Regulations.  
 cm = centimeters.  
 ID = Identification.  
 mg/kg = milligram per kilogram.  
 PCBs = Polychlorinated biphenyls.  
 TSCA = Toxic Substances Control Act.  
 U = Contaminant was not detected; the associated numerical value is the sample quantitation limit.  
 µg/wipe = micrograms per wipe; wipe is equal to 100 cm<sup>2</sup>.

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# **C      May and September 2009 Drum Sample Results**

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Appendix C. May and September 2009 Drum Sample Results (Page 1 of 3)

EPA Sample ID	No Comparison Criteria	09-05-0720	09-05-0721	09-05-0722	09-05-0723	09-05-0724	09-05-0725	09-05-0726	09-05-0727	09-09-0949	09-09-0950
Sample Location		Drum Field 02	Drum Field 03	AST 01	AST 03	AST 02	Drum Field 06, Container 01	Drum Field 06, Container 02	Drum Field 06, Container 03	Baler/Shredder	Baler/Shredder
Sample Collection Event		May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	Sep-09
<b>Metals (mg/kg)</b>											
Aluminum	NA	27.1	1.6 U	443	279	198	2.6 U	4.7 U	77.1		
Antimony	NA	0.33 U	0.28 UJ	1.4 UJ	0.19 UJ	0.24 UJ	0.26 UJ	0.22 UJ	0.45 UJ		
Arsenic	NA	0.18 U	0.18 U	2.1	2.4	1.3	0.86 J	0.31 J	0.72 J		
Barium	NA	0.32 J	0.082 U	150	138	25.5	0.078 U	1.2 J	12.8		
Beryllium	NA	0.025 U	0.025 U	0.047 J	0.046 J	0.025 U	0.024 U	0.025 U	0.025 U		
Cadmium	NA	0.38 UJ	0.047 J	3.7 J	0.68 J	0.59 J	0.049 J	0.05 J	0.95 J		
Calcium	NA	1,190	21.6 U	1,330 J	1,050 J	359 J	968	1.3 U	364		
Chromium	NA	0.46 U	0.06 U	15.8	11.9	4	0.044 UJ	0.053 UJ	0.78		
Cobalt	NA	0.34 U	0.034 U	6.5	5.3	1.7 J	0.032 U	0.034 U	0.16 J		
Copper	NA	1.8 J	0.1 U	109 J	62.8 J	13.5 J	0.076 U	0.25 U	68.3 J		
Iron	NA	3,060 J	2.1 U	3,560 J	1,910 J	388 J	3.1 U	12.6 U	225 J		
Lead	NA	2.7 J	0.11 U	176	148	67.5	0.11 U	0.26 U	51.5		
Magnesium	NA	55 J	4.3 J	478 J	332 J	0.22 UJ	0.2 UJ	0.21 U	79.1 J		
Manganese	NA	17.4 J	0.24 UJ	28 J	15.7 J	4.7 J	0.13 UJ	0.19 UJ	4.3 J		
Mercury	NA	0.0081 J	0.0058 UJ	0.0342 J	0.0498 J	0.0481 J	0.0058 UJ	0.0058 UJ	0.07 J		
Nickel	NA	0.43 J	0.041 UJ	29.7 J	37.8 J	21.2 J	0.039 UJ	0.041 UJ	1.1 J		
Potassium	NA	10.3 UJ	13.5 UJ	82.4 J	114 J	30.3 J	0.81 UJ	2.9 UJ	44.1 J		
Selenium	NA	0.15 UJ	0.15 UJ	2.6 J	3.7 J	1.7 J	2.2 J	0.83 J	1.6 J		
Silver	NA	0.042 UJ	0.02 UJ	0.43 UJ	0.17 UJ	0.15 UJ	0.074 UJ	0.083 UJ	0.25 UJ		
Sodium	NA	6.1 J	6 U	1,580	3,170	370	21.7 J	20.4 J	38.5 J		
Thallium	NA	0.24 UJ	0.24 UJ	0.23 UJ	0.23 UJ	0.24 UJ	0.23 UJ	0.24 UJ	0.24 UJ		
Vanadium	NA	0.28 J	0.021 U	26.2	36.5	16.4	0.02 U	0.032 J	0.33 J		
Zinc	NA	45.1 J	0.39 U	756 J	154 J	128 J	305 J	471 J	470 J		

**Notes:**

- 1 = Based on 40 CFR 761.
- Greater than or equal to TSCA criteria for PCB waste.
- Not submitted for analysis.

**Bold** = Result detected at or above limit of detection.

**Key:**

- AST = Above-ground storage tank.
- cm = centimeters.
- CFR = Code of Federal Regulations.
- EPA = Environmental Protection Agency.
- ID = Identification.
- J = The associated numerical value is an estimate.
- mg/kg = milligram per kilogram.
- NA = Not applicable.
- PCBs = Polychlorinated biphenyls.
- SVOCs = Semivolatile Organic Compounds.
- TSCA = Toxic Substances Control Act.
- TPH = Total Petroleum Hydrocarbon.
- U = Contaminant was not detected; the associated numerical value is the sample quantitation limit.
- µg/kg = microgram per kilogram.
- µg/wipe = micrograms per wipe; wipe is equal to 100 cm<sup>2</sup>.
- VOCs = Volatile Organic Compounds.

EPA Sample ID	TSCA <sup>1</sup>	09-05-0720	09-05-0721	09-05-0722	09-05-0723	09-05-0724	09-05-0725	09-05-0726	09-05-0727	09-09-0949	09-09-0950
Sample Location		Drum Field 02	Drum Field 03	AST 01	AST 03	AST 02	Drum Field 06, Container 01	Drum Field 06, Container 02	Drum Field 06, Container 03	Baler/Shredder	Baler/Shredder
Sample Collection Event		May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	Sep-09
<b>PCBs (mg/kg)</b>											
Aroclor-1016	50	4.7 U	5 U	5.2 U	5 U	5 U	4.7 U	5 UJ	5 U	0.4 U	0.39 U
Aroclor-1221	50	4.7 U	5 U	5.2 U	5 U	5 U	4.7 U	5 U	5 U	0.4 U	0.39 U
Aroclor-1232	50	4.7 U	5 U	5.2 U	5 U	5 U	4.7 U	5 U	5 U	0.4 U	0.39 U
Aroclor-1242	50	4.7 U	5 U	5.2 U	5 U	5 U	4.7 U	5 U	<b>64</b>	0.4 U	0.39 U
Aroclor-1248	50	4.7 U	5 U	5.2 U	5 U	5 U	4.7 U	5 U	5 U	0.4 U	0.39 U
Aroclor-1254	50	4.7 U	5 U	5.2 U	5 U	5 U	4.7 U	5 U	<b>25 J</b>	0.4 U	0.39 U
Aroclor-1260	50	4.7 U	5 U	5.2 U	5 U	5 U	4.7 U	5 UJ	5 U	0.4 U	0.39 U

EPA Sample ID	No Comparison Criteria	09-05-0720	09-05-0721	09-05-0722	09-05-0723	09-05-0724	09-05-0725	09-05-0726	09-05-0727	09-09-0949	09-09-0950
Sample Location		Drum Field 02	Drum Field 03	AST 01	AST 03	AST 02	Drum Field 06, Container 01	Drum Field 06, Container 02	Drum Field 06, Container 03	Baler/Shredder	Baler/Shredder
Sample Collection Event		May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	Sep-09
<b>Pesticides (µg/kg)</b>											
4,4'-DDD	NA	740 U	770 U	810 U	770 U	740 U	770 U	770 U	770 U		
4,4'-DDE	NA	740 U	770 U	810 U	770 U	<b>680 J</b>	770 U	770 U	<b>690 J</b>		
4,4'-DDT	NA	740 UJ	770 UJ	810 U	770 U	<b>590 J</b>	770 UJ	770 U	<b>1,100 J</b>		
Aldrin	NA	360 U	380 U	400 U	380 U	360 U	380 U	380 U	380 U		
alpha-BHC	NA	360 U	380 U	400 U	380 U	360 U	380 U	380 U	380 U		
alpha-Chlordane	NA	360 U	380 U	400 U	380 U	360 U	380 U	380 U	380 U		
beta-BHC	NA	360 U	380 U	400 U	380 U	360 U	380 U	380 U	<b>1,000 J</b>		
delta-BHC	NA	360 U	380 U	400 U	380 U	360 U	380 U	380 U	380 U		
Dieldrin	NA	740 U	770 U	810 U	770 U	740 U	770 U	770 U	770 U		
Endosulfan I	NA	360 U	380 U	400 U	380 U	360 U	380 U	380 U	380 U		
Endosulfan II	NA	740 U	770 U	810 U	770 U	740 U	770 U	770 U	<b>740 J</b>		
Endosulfan sulfate	NA	740 U	770 U	810 U	770 U	740 U	770 U	770 U	770 U		
Endrin	NA	740 U	770 U	810 U	770 U	<b>710 J</b>	770 U	770 U	770 U		
Endrin aldehyde	NA	740 U	770 U	810 U	770 U	740 U	770 U	770 U	770 U		
Endrin ketone	NA	740 U	770 U	810 U	<b>950 J</b>	740 U	770 U	770 U	770 U		
gamma-BHC	NA	360 U	380 U	400 U	380 U	360 U	380 U	380 U	380 U		
gamma-Chlordane	NA	360 U	380 U	400 U	380 U	360 U	380 U	380 U	380 U		
Heptachlor	NA	360 U	380 U	400 U	380 U	360 U	380 U	380 U	380 U		
Heptachlor epoxide	NA	360 U	380 U	400 U	380 U	360 U	380 U	380 U	<b>590 J</b>		
Methoxychlor	NA	3,600 U	3800 U	4,000 U	3,800 U	3,600 U	3,800 U	3,800 U	3,800 U		
Toxaphene	NA	45,000 U	48,000 U	50,000 U	48,000 U	45,000 U	48,000 U	48,000 U	48,000 U		

EPA Sample ID	No Comparison Criteria	09-05-0720	09-05-0721	09-05-0722	09-05-0723	09-05-0724	09-05-0725	09-05-0726	09-05-0727	09-09-0949	09-09-0950
Sample Location		Drum Field 02	Drum Field 03	AST 01	AST 03	AST 02	Drum Field 06, Container 01	Drum Field 06, Container 02	Drum Field 06, Container 03	Baler/Shredder	Baler/Shredder
Sample Collection Event		May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	Sep-09
<b>TPH (mg/kg)</b>											
Diesel Range Organics	NA	<b>14,000</b>	500 U	<b>150,000</b>	<b>240,000</b>	<b>140,000</b>	<b>88,000 J</b>	<b>17,000</b>	<b>130,000</b>		
Oil Range Organics	NA	<b>4,000</b>	2,000 U	<b>330,000</b>	<b>240,000</b>	<b>150,000</b>	<b>950,000</b>	<b>160,000</b>	<b>880,000 J</b>		

Appendix C. May and September 2009 Drum Sample Results (Page 2 of 3)

EPA Sample ID	No Comparison Criteria	09-05-0720	09-05-0721	09-05-0722	09-05-0723	09-05-0724	09-05-0725	09-05-0726	09-05-0727	09-09-0949	09-09-0950
Sample Location		Drum Field 02	Drum Field 03	AST 01	AST 03	AST 02	Drum Field 06, Container 01	Drum Field 06, Container 02	Drum Field 06, Container 03	Baler/Shredder	Baler/Shredder
Sample Collection Event		May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	Sep-09
<b>SVOCs (mg/kg)</b>											
1,2,4-Trichlorobenzene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
1,2-Dichlorobenzene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
1,2-Diphenylhydrazine	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
1,3-Dichlorobenzene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
1,4-Dichlorobenzene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2,4,5-Trichlorophenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2,4,6-Trichlorophenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2,4-Dichlorophenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2,4-Dimethylphenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2,4-Dinitrophenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2,4-Dinitrotoluene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2,6-Dinitrotoluene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2-Chloronaphthalene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2-Chlorophenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2-Methylnaphthalene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2-Methylphenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2-Nitroaniline	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
2-Nitrophenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
3 & 4-Methylphenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
3,3'-Dichlorobenzidine	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
3-Nitroaniline	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
4,6-Dinitro-2-methylphenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
4-Bromophenyl-phenyl ether	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
4-Chloro-3-methylphenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
4-Chloroaniline	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
4-Chlorophenyl-phenylether	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
4-Nitroaniline	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
4-Nitrophenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Acenaphthene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Acenaphthylene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Anthracene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Benzo(a)anthracene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Benzo(a)pyrene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Benzo(b)fluoranthene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Benzo(g,h,i)perylene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Benzo(k)fluoranthene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Benzoic acid	NA	10,000 UJ	9,500 UJ	45,000 UJ	45,000 UJ	45,000 UJ	9,500 UJ	23,000 UJ	24,000 UJ		
Benzyl alcohol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Bis(2-chloroethoxy)methane	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Bis(2-Chloroethyl)ether	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Bis(2-chloroisopropyl)ether	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Bis(2-ethylhexyl)phthalate	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Butylbenzylphthalate	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Carbazole	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Chrysene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Dibenzo(a,h)anthracene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Dibenzofuran	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Diethylphthalate	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Dimethylphthalate	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Di-n-butylphthalate	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Di-n-octylphthalate	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Fluoranthene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Fluorene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Hexachlorobenzene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Hexachlorobutadiene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Hexachloroethane	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Indeno(1,2,3-cd)pyrene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Isophorone	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Naphthalene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Nitrobenzene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
N-Nitrosodimethylamine	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
N-Nitroso-di-n-propylamine	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
N-Nitrosodiphenylamine	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Pentachlorophenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Phenanthrene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Phenol	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		
Pyrene	NA	5,000 U	4,800 U	23,000 U	23,000 U	23,000 U	4,800 U	11,000 U	12,000 U		

**Notes:**

- 1 = Based on 40 CFR 761.
- Greater than or equal to TSCA criteria for PCB waste.
- Not submitted for analysis.

**Bold** = Result detected at or above limit of detection.

**Key:**

- AST = Above-ground storage tank.
- cm = centimeters.
- CFR = Code of Federal Regulations.
- EPA = Environmental Protection Agency.
- ID = Identification.
- J = The associated numerical value is an estimate.
- mg/kg = milligram per kilogram.
- NA = Not applicable.
- PCBs = Polychlorinated biphenyls.
- SVOCs = Semivolatile Organic Compounds.
- TSCA = Toxic Substances Control Act.
- TPH = Total Petroleum Hydrocarbon.
- U = Contaminant was not detected; the associated numerical value is the sample quantitation limit.
- µg/kg = microgram per kilogram.
- µg/wipe = micrograms per wipe; wipe is equal to 100 cm<sup>2</sup>.
- VOCs = Volatile Organic Compounds.

Appendix C. May and September 2009 Drum Sample Results (Page 3 of 3)

EPA Sample ID	No Comparison Criteria	09-05-0720	09-05-0721	09-05-0722	09-05-0723	09-05-0724	09-05-0725	09-05-0726	09-05-0727	09-09-0949	09-09-0950
Sample Location		Drum Field 02	Drum Field 03	AST 01	AST 03	AST 02	Drum Field 06, Container 01	Drum Field 06, Container 02	Drum Field 06, Container 03	Baler/Shredder	Baler/Shredder
Sample Collection Event		May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	May-09	Sep-09
<b>VOCs (µg/kg)</b>											
Dichlorodifluoromethane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,1,1,2-Tetrachloroethane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,1,1-Trichloroethane	NA	<b>31,000 J</b>	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,1,2,2-Tetrachloroethane	NA	800 U	130 U	210 U	180 U	<b>150 J</b>	270 U	130 U	230 U		
1,1,2-Trichloroethane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,1-Dichloroethane	NA	<b>13,000 J</b>	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,1-Dichloroethene	NA	<b>5,900 J</b>	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,1-Dichloropropene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,2,3-Trichlorobenzene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,2,3-Trichloropropane	NA	800 U	130 U	210 U	180 U	<b>97 J</b>	270 U	130 U	230 U		
1,2,4-Trichlorobenzene	NA	800 U	130 U	210 U	180 U	260 U	270 U	<b>46 J</b>	110 J		
1,2,4-Trimethylbenzene	NA	<b>24,000,000</b>	<b>92 J</b>	<b>26,000 J</b>	<b>13,000</b>	<b>560</b>	<b>680</b>	<b>360</b>	<b>100,000</b>		
1,2-Dibromo-3-chloropropane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,2-Dibromoethane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,2-Dichlorobenzene	NA	800 U	130 U	210 U	180 U	<b>51 J</b>	270 U	130 U	230 U		
1,2-Dichloroethane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,2-Dichloropropane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,3,5-Trimethylbenzene	NA	<b>12,000,000</b>	130 U	<b>6,300 J</b>	<b>3,000</b>	<b>290</b>	<b>340</b>	<b>230</b>	<b>21,000</b>		
1,3-Dichlorobenzene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	<b>43 J</b>		
1,3-Dichloropropane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
1,4-Dichlorobenzene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	<b>45 J</b>		
2,2-Dichloropropane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
2-Butanone	NA	<b>1,800 J</b>	260 U	1,300 U	<b>1,800</b>	990 U	660 U	320 U	630 U		
2-Chlorotoluene	NA	800 U	130 U	<b>2,600 J</b>	<b>1,200</b>	<b>87 J</b>	270 U	130 U	230 U		
2-Hexanone	NA	4000 U	640 U	1,000 U	880 U	1,300 U	1,300 U	670 U	1,100 U		
4-Chlorotoluene	NA	800 U	130 U	210 U	180 U	<b>51 J</b>	270 U	130 U	230 U		
4-Isopropyltoluene	NA	<b>15,000 J</b>	130 U	<b>1,200 J</b>	<b>1,000</b>	260 U	270 U	<b>99 J</b>	<b>930</b>		
4-Methyl-2-pentanone	NA	<b>140,000</b>	640 U	1,000 U	880 U	<b>1,200 J</b>	1,300 U	670 U	<b>280 J</b>		
Acetone	NA	<b>1,000,000 J</b>	280 U	<b>1,700 J</b>	<b>2,300</b>	<b>1,900</b>	770 U	310 U	510 U		
Benzene	NA	<b>120 J</b>	130 U	<b>450 J</b>	<b>270</b>	260 U	<b>140 J</b>	130 U	<b>90 J</b>		
Bromobenzene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Bromochloromethane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Bromodichloromethane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Bromoform	NA	800 U	130 U	210 U	180 U	<b>61 J</b>	270 U	130 U	<b>47 J</b>		
Bromomethane	NA	800 UJ	130 UJ	210 UJ	180 UJ	260 UJ	270 UJ	130 UJ	230 UJ		
Carbon disulfide	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Carbon tetrachloride	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Chlorobenzene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Chloroethane	NA	<b>340 J</b>	130 UJ	210 UJ	180 UJ	260 UJ	270 UJ	130 UJ	230 UJ		
Chloroform	NA	800 U	<b>28 J</b>	<b>60 J</b>	<b>140 J</b>	<b>56 J</b>	<b>43 J</b>	<b>30 J</b>	230 U		
Chloromethane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
cis-1,2-Dichloroethene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
cis-1,3-Dichloropropene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Dibromochloromethane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Dibromomethane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Ethylbenzene	NA	<b>1,800,000</b>	130 U	<b>3,500 J</b>	<b>1,100</b>	<b>69 J</b>	<b>190 J</b>	<b>36 J</b>	<b>9,900</b>		
Hexachlorobutadiene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Isopropylbenzene	NA	<b>3,300,000</b>	130 U	<b>950 J</b>	<b>350</b>	<b>120 J</b>	<b>130 J</b>	<b>71 J</b>	<b>1,500</b>		
m,p-Xylene	NA	<b>8,100,000</b>	260 U	<b>14,000 J</b>	<b>4,500</b>	<b>280 J</b>	<b>720</b>	<b>160 J</b>	<b>43,000</b>		
Methyl tert-butyl ether	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Methylene chloride	NA	800 UJ	<b>190</b>	<b>410 J</b>	<b>270</b>	<b>370</b>	<b>380</b>	<b>280</b>	<b>660</b>		
Naphthalene	NA	<b>2,100 J</b>	130 U	<b>57,000</b>	<b>65,000</b>	<b>12,000</b>	<b>360</b>	<b>890</b>	<b>31,000</b>		
n-Butylbenzene	NA	<b>24,000 J</b>	130 U	<b>4,500 J</b>	<b>2,600</b>	<b>300</b>	<b>340</b>	<b>170</b>	<b>8,400</b>		
n-Propylbenzene	NA	<b>8,300,000</b>	130 U	<b>2,300 J</b>	<b>1,100</b>	<b>240 J</b>	<b>290</b>	<b>150</b>	<b>8,400</b>		
o-Xylene	NA	13,000,000 U	130 U	<b>7,500 J</b>	<b>2,500</b>	<b>180 J</b>	<b>330</b>	<b>140</b>	<b>23,000</b>		
sec-Butylbenzene	NA	<b>44,000 J</b>	130 U	<b>910 J</b>	<b>650</b>	<b>210 J</b>	<b>220 J</b>	<b>120 J</b>	230 U		
Styrene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	<b>990</b>		
tert-Butylbenzene	NA	100,000 U	130 U	<b>270 J</b>	180 U	260 U	270 U	130 U	230 U		
Tetrachloroethene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Toluene	NA	<b>330,000</b>	130 U	<b>5,800 J</b>	<b>1,200</b>	<b>48 J</b>	<b>780</b>	<b>31 J</b>	<b>9,100</b>		
trans-1,2-Dichloroethene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
trans-1,3-Dichloropropene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Trichloroethene	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Trichlorofluoromethane	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		
Vinyl chloride	NA	800 U	130 U	210 U	180 U	260 U	270 U	130 U	230 U		

**Notes:**

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- U** = Not submitted for analysis.
- Bold** = Result detected at or above limit of detection.

**Key:**

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- cm = centimeters.
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- ID = Identification.
- J = The associated numerical value is an estimate.
- mg/kg = milligram per kilogram.
- NA = Not applicable.
- PCBs = Polychlorinated biphenyls.
- SVOCs = Semivolatile Organic Compounds.
- TSCA = Toxic Substances Control Act.
- TPH = Total Petroleum Hydrocarbon.
- U = Contaminant was not detected; the associated numerical value is the sample quantitation limit.
- µg/kg = microgram per kilogram.
- µg/wipe = micrograms per wipe; wipe is equal to 100 cm<sup>2</sup>.
- VOCs = Volatile Organic Compounds.

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# **D      October 2009 Drum Sample Results**

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Appendix D. October 2009 Drum Sample Results (Page 1 of 1)

EPA Sample ID	TSCA <sup>1</sup>	09-10-1006	09-10-1007	09-10-1008	09-10-1009	09-10-1010	09-10-1011	09-10-1012	09-10-1013
Sample Description		Drum 1	Drums 2, 3, 17, 18, 36	Drums 22, 28, 31, 32, 35	Drums 20, 24, 26, 37	Drums 13, 14, 29, 43	Drums 39, 41, 59, 60, 62	Drums 38, 40, 45, 47, 48	Drums 49, 50, 51, 55
Sample Collection Event		Oct-09	Oct-09	Oct-09	Oct-09	Oct-09	Oct-09	Oct-09	Oct-09
<b>PCBs (mg/kg)</b>									
Aroclor-1016	50	4.8 U	4.8 U	4.9 U	4.9 U	5 U	4.8 U	4.8 U	4.8 U
Aroclor-1221	50	4.8 U	4.8 U	4.9 U	4.9 U	5 U	4.8 U	4.8 U	4.8 U
Aroclor-1232	50	4.8 U	4.8 U	4.9 U	4.9 U	5 U	4.8 U	4.8 U	4.8 U
Aroclor-1242	50	4.8 U	<b>15</b>	4.9 U	4.9 U	<b>13</b>	4.8 U	<b>11</b>	4.8 U
Aroclor-1248	50	4.8 U	4.8 U	4.9 U	4.9 U	5 U	4.8 U	4.8 U	4.8 U
Aroclor-1254	50	4.8 U	<b>7.6</b>	4.9 U	4.9 U	5 U	4.8 U	4.8 U	4.8 U
Aroclor-1260	50	4.8 U	4.8 U	4.9 U	4.9 U	5 U	4.8 U	4.8 U	4.8 U

EPA Sample ID	TSCA <sup>1</sup>	09-10-1014	09-10-1015	09-10-1016	09-10-1017	09-10-1018	09-10-1019	09-10-1020
Sample Description		Drums 64, 65, 75, 79	Drums 66, 67, 68, 69, 70	Drums 71-74, 76	Drums 77, 78, 80, 85, 87	Drums 81-84	Drum 91	Drum 92
Sample Collection Event		Oct-09	Oct-09	Oct-09	Oct-09	Oct-09	Oct-09	Oct-09
<b>PCBs (mg/kg)</b>								
Aroclor-1016	50	4.8 U	0.22 U	2.6 U	2.2 U	2 U	4.8 U	4.9 U
Aroclor-1221	50	4.8 U	0.22 U	2.6 U	2.2 U	2 U	4.8 U	4.9 U
Aroclor-1232	50	4.8 U	0.22 U	2.6 U	2.2 U	2 U	4.8 U	4.9 U
Aroclor-1242	50	4.8 U	<b>0.96</b>	<b>11</b>	<b>11</b>	<b>3.4</b>	4.8 U	4.9 U
Aroclor-1248	50	4.8 U	0.22 U	2.6 U	2.2 U	2 U	4.8 U	4.9 U
Aroclor-1254	50	4.8 U	<b>2.9</b>	<b>4.2</b>	<b>17</b>	<b>5.6</b>	4.8 U	4.9 U
Aroclor-1260	50	4.8 U	0.22 U	2.6 U	2.2 U	2 U	4.8 U	4.9 U

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**Key:**

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- TPH = Total Petroleum Hydrocarbon.
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- µg/kg = microgram per kilogram.
- µg/wipe = micrograms per wipe; wipe is equal to 100 cm<sup>2</sup>.
- VOCS = Volatile Organic Compounds.

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# **E      May and September 2009 Bulk Sample Results**

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**Appendix E. May and September 2009 Bulk Sample Results (Page 1 of 1)**

Sample Number	Sample Collection Event	Location	Analytical Method	Result	Asbestos Type
09-05-0717	May-09	Shop Building	PLM	<b>15%</b>	Chrysotile
09-05-0718	May-09	Kiln	PLM	NAD	NA
09-05-0719	May-09	Ground Surface near Kiln	PLM	NAD	NA
09-09-0905	Sep-09	Dirt Road	PLM	<b>15%</b>	Chrysotile
09-09-0906	Sep-09	Suspected ACM Pile	PLM	<b>15%</b>	Chrysotile

**Note:**

**Bold** = Result detected at or above limit of detection.

**Key:**

% = Percent.  
NA = Not applicable.  
NAD = No asbestos detected.  
PLM = Polarized Light Microscopy.  
U = The material was analyzed for but not detected; the numerical value is the sample quantitation limit.

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# **F      September 2009 Soil Sample Results**

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Appendix F. September 2009 Soil Sample Results (Page 1 of 2)

EPA Sample ID	Sample Location	Sample Depth	Sample Collection Event	09-09-0941	09-09-0942	09-09-0943	09-09-0944	09-09-0958	09-09-0959	09-09-0960	09-09-0961	09-09-0962	09-09-0963
DF02SS	DF03SS	DF04SS	DF05SS	DF06SS	DF01SB04	DF01SB08	DF01SB12	BA01SS	OB01SB04				
Residential Soil	Industrial Soil	Surface	Surface	Surface	Surface	Surface	Surface	4' BGS	8' BGS	12' BGS	Surface	4' BGS	
Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09
<b>Metals (mg/kg)</b>													
Aluminum	77,000	990,000	10,000 J	13,000 J	12,000 J	13,000 J	12,000 J	11,000	18,000	19,000	12,000	15,000	
Antimony (Metallic)	31	410	6.2 U	6 U	5.7 U	6.1 U	32	6.6 U	6.6 U	6.6 U	12	6.3 U	
Arsenic (Inorganic)	0.39	1.6	12 U	12 U	11 U	12 U	11 U	13 U	13 U	13 U	10 U	13 U	
Barium	15,000	190,000	110	130	120	130	200	89	94	120	160	120	
Beryllium & Compounds	160	2,000	0.62 U	0.6 U	0.57 U	0.61 U	0.53 U	0.66 U	0.66 U	0.66 U	0.52 U	0.63 U	
Cadmium (Diet)	70	800	4.4	0.69	0.9	0.61 U	24	0.66 U	0.66 U	0.66 U	11	0.63 U	
Calcium	NA	NA	7,500	12,000	12,000	9,900	9,200	7,900	6,400	6,200	14,000	8,600	
Chromium (Total)	NA	NA	36	12	17	9.8	28	8.2	12	14	68	10	
Cobalt	23	300	9.6	8.5	8.4	8.1	9.2	9.7	20	21	10	11	
Copper	3,100	41,000	4,200	140	52	28	25,000	27	19	19	580	18	
Iron	55,000	720,000	41,000 J	31,000 J	49,000 J	29,000 J	36,000 J	25,000	60,000	52,000	49,000	29,000	
Lead & Compounds	400	800	610	160	100	23	1,200	10 J	16 J	7.6 J	750 J	280 J	
Magnesium	NA	NA	5,000	6,500	6,500	6,600	5,000	5,000	5,000	4,300	5,000	4,600	
Manganese (Non-Diet)	1,800	23,000	430	470	450	360	460	330	420	1000	420	300	
Mercury (Elemental)	10	43	0.42	0.3 U	0.29 U	0.3 U	28	0.33 U	0.33 U	0.33 U	0.26 U	0.31 U	
Nickel (Soluble Salts)	1,500	20,000	34	12	12	8.4	95	7.3 J	10 J	11 J	57 J	8.2 J	
Potassium	NA	NA	3,000 J	4,400 J	4,600 J	4,600 J	3,900 J	2,100	2,200	1,900	3,200	2,700	
Selenium	390	5,100	12 U	12 U	11 U	12 U	11 U	13 U	13 U	13 U	10 U	13 U	
Silver	390	5,100	4.1	0.6 U	0.57 U	0.61 U	4.5	0.66 U	0.66 U	0.66 U	0.52 U	0.63 U	
Sodium	NA	NA	490	760	450	530	490	1,400 J	960 J	860 J	660 J	1,100 J	
Thallium (Soluble Salts)	0.78	10	6.2 U	6 U	5.7 U	6.1 U	5.3 U	6.6 U	6.6 U	6.6 U	5.2 U	6.3 U	
Vanadium & Compounds	390	5,200	88	93	87	110	86	77	160	150	91	110	
Zinc & Compounds	23,000	310,000	480	170	330	140	4,500	46 J	85 J	94 J	670	51 J	

Notes:

- Greater than or equal to EPA RSL residential, but less than the RSL industrial, screening criteria for soil.
- Greater than or equal to EPA RSL industrial screening criteria for soil, or for TPH the value is greater than or equal to Washington MTCA cleanup levels for soil at unrestricted and industrial properties.
- Result detected at or above limit of detection.

Key:

- BGS = Below ground surface.
- EPA = Environmental Protection Agency.
- ID = Identification.
- J = The associated numerical value is an estimate.
- MTCA = Model Toxics Control Act.
- mg/kg = Milligrams per kilogram (parts per million).
- µg/kg = Micrograms per kilogram (parts per billion).
- NA = Not applicable.
- PCBs = Polychlorinated biphenyls.
- RSL = Regional screening levels for chemical contaminants at Superfund sites.
- SVOCs = Semivolatile organic hydrocarbons.
- TPH = Total petroleum hydrocarbons.
- U = The analyte was analyzed for, but not detected above the reported sample quantitation limit.

EPA Sample ID	Sample Location	Sample Depth	Sample Collection Event	09-09-0941	09-09-0942	09-09-0943	09-09-0944	09-09-0958	09-09-0959	09-09-0960	09-09-0961	09-09-0962	09-09-0963
DF02SS	DF03SS	DF04SS	DF05SS	DF06SS	DF01SB04	DF01SB08	DF01SB12	BA01SS	OB01SB04				
Residential Soil	Industrial Soil	Surface	Surface	Surface	Surface	Surface	Surface	4' BGS	8' BGS	12' BGS	Surface	4' BGS	
Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09
<b>PCBs (µg/kg)</b>													
Aroclor-1016	3,900	21,000	62 U	60 U	57 U	61 U	270 U	66 U	66 U	66 U	66 U	52 U	63 U
Aroclor-1221	140	540	62 U	60 U	57 U	61 U	270 U	66 U	66 U	66 U	66 U	52 U	63 U
Aroclor-1232	140	540	62 U	60 U	57 U	61 U	270 U	66 U	66 U	66 U	66 U	52 U	63 U
Aroclor-1242	220	740	62 U	60 U	57 U	61 U	270 U	66 U	66 U	66 U	66 U	140	63 U
Aroclor-1248	220	740	62 U	60 U	57 U	61 U	270 U	66 U	66 U	66 U	66 U	52 U	63 U
Aroclor-1254	220	740	62 U	80 J	570 U	61 U	1,200	66 U	66 U	66 U	66 U	1,500	63 U
Aroclor-1260	220	740	950 J	60 U	570 U	61 U	270 U	66 U	66 U	66 U	66 U	52 U	63 U

EPA Sample ID	Sample Location	Sample Depth	Sample Collection Event	09-09-0941	09-09-0942	09-09-0943	09-09-0944	09-09-0958	09-09-0959	09-09-0960	09-09-0961	09-09-0962	09-09-0963
DF02SS	DF03SS	DF04SS	DF05SS	DF06SS	DF01SB04	DF01SB08	DF01SB12	BA01SS	OB01SB04				
Residential Soil	Industrial Soil	Surface	Surface	Surface	Surface	Surface	Surface	4' BGS	8' BGS	12' BGS	Surface	4' BGS	
Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09
<b>Pesticides (µg/kg)</b>													
4,4'-DDD	2,000	7,200	620 U	12 U	11 UJ	12 U	210 UJ	13 U	13 U	13 U	13 U	10 UJ	13 U
4,4'-DDE	1,400	5,100	620 U	15	11 U	12 U	210 UJ	13 U	13 U	13 U	13 U	19 J	13 U
4,4'-DDT	1700	7,000	620 UJ	12 U	11 UJ	12 U	210 UJ	13 U	13 U	13 U	13 U	58 J	13 U
Aldrin	29	100	310 U	6 U	5.7 UJ	6.1 U	110 UJ	6.6 U	6.6 U	6.6 U	6.6 U	5.2 UJ	6.3 U
alpha-BHC	77	270	310 U	6 U	5.7 UJ	6.1 U	110 UJ	6.6 U	6.6 U	6.6 U	6.6 U	5.2 U	6.3 U
alpha-Chlordane	NA	NA	620 U	12 U	11 UJ	12 U	210 UJ	13 U	13 U	13 U	13 U	10 UJ	13 U
beta-BHC	270	960	310 U	6 U	5.7 UJ	6.1 U	110 UJ	6.6 U	6.6 U	6.6 U	6.6 U	5.2 U	6.3 U
delta-BHC	NA	NA	310 U	6 U	5.7 UJ	6.1 U	110 UJ	6.6 U	6.6 U	6.6 U	6.6 U	5.2 UJ	6.3 U
Dieldrin	30	110	620 U	12 U	11 UJ	12 U	210 UJ	13 U	13 U	13 U	13 U	29 J	13 U
Endosulfan I	NA	NA	310 U	6 U	5.7 UJ	6.1 U	110 UJ	6.6 UJ	6.6 UJ	6.6 U	6.6 U	5.2 UJ	6.3 UJ
Endosulfan II	NA	NA	620 U	12 U	11 UJ	12 U	210 UJ	13 U	13 U	13 U	13 U	10 UJ	13 U
Endosulfan sulfate	NA	NA	620 U	12 U	11 UJ	12 U	210 UJ	13 U	13 U	13 U	13 U	10 UJ	13 U
Endrin	18,000	180,000	620 U	12 U	11 UJ	12 U	210 UJ	13 U	13 U	13 U	13 U	10 UJ	13 U
Endrin aldehyde	NA	NA	620 U	12 U	11 UJ	12 U	210 UJ	13 U	13 U	13 U	13 U	10 UJ	13 U
Endrin ketone	NA	NA	620 U	12 U	11 UJ	12 U	210 UJ	13 U	13 U	13 U	13 U	10 UJ	13 U
gamma-BHC	520	2,100	310 U	6 U	5.7 UJ	6.1 U	110 UJ	6.6 U	6.6 U	6.6 U	6.6 U	5.2 U	6.3 U
gamma-Chlordane	NA	NA	620 U	12 U	11 UJ	12 U	210 UJ	13 U	13 U	13 U	13 U	10 UJ	13 U
Heptachlor	110	380	310 U	6 U	5.7 UJ	6.1 U	110 UJ	6.6 U	6.6 U	6.6 U	6.6 U	5.2 U	6.3 U
Heptachlor epoxide	53	190	310 U	6 U	5.7 UJ	6.1 U	110 UJ	6.6 U	6.6 U	6.6 U	6.6 U	5.2 UJ	6.3 U
Methoxychlor	310,000	3,100,000	620 U	12 U	11 UJ	12 U	210 UJ	13 U	13 U	13 U	13 U	10 UJ	13 U
Toxaphene	440	1,600	3100 U	60 U	57 UJ	61 U	1100 UJ	66 U	66 U	66 U	66 U	52 U	63 U

EPA Sample ID	Sample Location	Sample Depth	Sample Collection Event	09-09-0941	09-09-0942	09-09-0943	09-09-0944	09-09-0958	09-09-0959	09-09-0960	09-09-0961	09-09-0962	09-09-0963
DF02SS	DF03SS	DF04SS	DF05SS	DF06SS	DF01SB04	DF01SB08	DF01SB12	BA01SS	OB01SB04				
Unrestricted Soil	Industrial Soil	Surface	Surface	Surface	Surface	Surface	Surface	4' BGS	8' BGS	12' BGS	Surface	4' BGS	
Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09
<b>TPH (mg/kg)</b>													
Diesel Range Organics	2,000	2,000	49,000	30 U	230	31 U	20,000	33 U	33 U	33 U	33 U	46 U	31 U
Oil Range Organics	2,000	2,000	47,000 J	60	160 J	61 U	24,000 J	66 U	66 U	66 U	66 U	440	63 U

Appendix F. September 2009 Soil Sample Results (Page 2 of 2)

EPA Sample ID Sample Location Sample Depth Sample Collection Event	EPA RSL - Residential Soil	EPA RSL - Industrial Soil	09-09-0941	09-09-0942	09-09-0943	09-09-0944	09-09-0958	09-09-0959	09-09-0960	09-09-0961	09-09-0962	09-09-0963
			DF02SS	DF03SS	DF04SS	DF05SS	DF06SS	DF01SB04	DF01SB08	DF01SB12	BA01SS	OB01SB04
			Surface	Surface	Surface	Surface	Surface	4' BGS	8' BGS	12' BGS	Surface	4' BGS
			Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09	Sep-09
<b>SVOCs (mg/kg)</b>												
1,2,4-Trichlorobenzene	22	99	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
1,2-Dichlorobenzene	1,900	9,800	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
1,2-Dinitrobenzene	6.1	62	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
1,2-Diphenylhydrazine	0.61	2.2	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
1,3-Dichlorobenzene	NA	NA	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
1,3-Dinitrobenzene	6.1	62	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
1,4-Dichlorobenzene	2.4	12	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
1,4-Dinitrobenzene	6.1	62	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
1-Methylnaphthalene	22	99	0.082 U	0.008 U	<b>0.011</b>	0.0081 U	0.035 U	0.0088 U	0.0088 U	0.0088 U	0.0069 U	0.0083 U
2,3,4,6-Tetrachlorophenol	1,800	18,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
2,3,5,6-Tetrachlorophenol	NA	NA	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
2,3-Dichloroaniline	NA	NA	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
2,4,5-Trichlorophenol	6,100	62,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
2,4,6-Trichlorophenol	44	160	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
2,4-Dichlorophenol	180	1,800	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
2,4-Dimethylphenol	1,200	12,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
2-Chlorophenol	390	5,100	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
2-Methylnaphthalene	310	4,100	0.082 U	0.008 U	<b>0.011</b>	0.0081 U	0.035 U	0.0088 U	0.0088 U	0.0088 U	0.0069 U	0.0083 U
2-Methylphenol	3,100	31,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
2-Nitroaniline	610	6,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
2-Nitrophenol	NA	NA	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
3 & 4-Methylphenol	3,100	31,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
3,3'-Dichlorobenzidine	1.1	3.8	4.1 U	0.4 U	0.38 U	0.41 U	1.8 U	0.44 U	0.44 U	0.44 U	0.35 U	0.42 U
3-Nitroaniline	NA	NA	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
4,6-Dinitro-2-methylphenol	4.9	49	21 U	0.2 U	0.19 U	0.2 U	8.9 U	0.22 U	0.22 U	0.22 U	0.17 U	0.21 U
4-Bromophenyl-phenyl ether	NA	NA	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
4-Chloro-3-methylphenol	6,100	62,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
4-Chloroaniline	2.4	8.6	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
4-Chlorophenyl-phenylether	NA	NA	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
4-Nitroaniline	24	86	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
4-Nitrophenol	NA	NA	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Acenaphthene	3,400	33,000	0.082 U	0.008 U	0.0077 U	0.0081 U	0.035 U	0.0088 U	0.0088 U	0.0088 U	<b>0.0082</b>	0.0083 U
Acenaphthylene	NA	NA	0.082 U	0.008 U	<b>0.0082</b>	<b>0.0092</b>	0.035 U	0.0088 U	0.0088 U	0.0088 U	<b>0.023</b>	0.0083 U
Aniline	85	300	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Anthracene	17,000	170,000	<b>0.99</b>	<b>0.016</b>	<b>0.028</b>	<b>0.011</b>	0.035 U	0.0088 U	0.0088 U	0.0088 U	<b>0.051</b>	0.0083 U
Benzidine	0.0005	0.0075	4.1 U	0.4 U	0.38 U	0.41 U	1.8 U	0.44 U	0.44 U	0.44 U	0.35 U	0.42 U
Benzo(a)anthracene	0.15	2.1	<b>0.2</b>	<b>0.17</b>	<b>0.11</b>	<b>0.05</b>	<b>0.11</b>	0.0088 U	0.0088 U	0.0088 U	<b>0.2</b>	0.0083 U
Benzo(a)pyrene	0.015	0.21	0.082 U	<b>0.15</b>	<b>0.099</b>	<b>0.07</b>	<b>0.097</b>	0.0088 U	0.0088 U	0.0088 U	<b>0.18</b>	0.0083 U
Benzo(b)fluoranthene	0.15	2.1	0.082 U	<b>0.19</b>	<b>0.12</b>	<b>0.086</b>	<b>0.25</b>	0.0088 U	0.0088 U	0.0088 U	<b>0.22</b>	0.0083 U
Benzo(g,h,i)perylene	NA	NA	0.082 U	<b>0.095</b>	<b>0.1</b>	<b>0.061</b>	<b>0.092</b>	0.0088 U	0.0088 U	0.0088 U	<b>0.1</b>	0.0083 U
Benzo(k)fluoranthene	1.5	21	0.082 U	<b>0.17</b>	<b>0.12</b>	<b>0.09</b>	<b>0.067</b>	0.0088 U	0.0088 U	0.0088 U	<b>0.18</b>	0.0083 U
Benzyl alcohol	6,100	62,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Bis(2-chloroethoxy)methan	180	1,800	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Bis(2-Chloroethyl)ether	0.21	1	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Bis(2-chloroisopropyl)ether	4.6	22	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Bis(2-ethylhexyl)phthalate	35	120	<b>13</b>	0.04 U	<b>0.057</b>	0.041 U	<b>7.1</b>	0.044 U	0.044 U	0.044 U	<b>4.8</b>	0.042 U
bis-2-Ethylhexyladipate	410	1,400	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Butylbenzylphthalate	260	910	<b>5.9</b>	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Carbazole	NA	NA	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	<b>0.038</b>	0.042 U
Chrysene	15	210	0.082 U	<b>0.25</b>	<b>0.17</b>	<b>0.086</b>	<b>0.29</b>	0.0088 U	0.0088 U	0.0088 U	<b>0.26</b>	0.0083 U
Dibenzo(a,h)anthracene	0.015	0.21	0.082 U	<b>0.027</b>	<b>0.019</b>	<b>0.014</b>	0.035 U	0.0088 U	0.0088 U	0.0088 U	<b>0.033</b>	0.0083 U
Dibenzofuran	78	1,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Diethylphthalate	49,000	490,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Dimethylphthalate	NA	NA	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Hexachlorobenzene	0.3	1.1	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Hexachlorobutadiene	6.2	22	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Hexachlorocyclopentadien	370	3,700	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Hexachloroethane	35	120	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Indeno(1,2,3-cd)pyrene	0.15	2.1	0.082 U	<b>0.084</b>	<b>0.08</b>	<b>0.053</b>	<b>0.069</b>	0.0088 U	0.0088 U	0.0088 U	<b>0.095</b>	0.0083 U
Isophorone	510	1,800	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Naphthalene	3.6	18	0.082 U	0.008 U	0.0077 U	0.0081 U	0.035 U	0.0088 U	0.0088 U	0.0088 U	0.0069 U	0.0083 U
Nitrobenzene	4.8	24	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
N-Nitrosodimethylamine	0.0023	0.034	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
N-Nitroso-di-n-propylamine	0.069	0.25	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
N-Nitrosodiphenylamine	99	350	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Pentachlorophenol	0.89	2.7	21 U	0.2 U	0.19 U	0.2 U	8.9 U	0.22 U	0.22 U	0.22 U	0.17 U	0.21 U
Phenanthrene	NA	NA	0.082 U	<b>0.097</b>	<b>0.082</b>	<b>0.014</b>	0.035 U	0.0088 U	0.0088 U	0.0088 U	<b>0.16</b>	0.0083 U
Phenol	18,000	180,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U
Pyrene	1,700	17,000	0.082 U	<b>0.29</b>	<b>0.19</b>	<b>0.062</b>	0.035 U	0.0088 U	0.0088 U	0.0088 U	<b>0.27</b>	0.0083 U
Pyridine	78	1,000	4.1 U	0.04 U	0.038 U	0.041 U	1.8 U	0.044 U	0.044 U	0.044 U	0.035 U	0.042 U

**Notes:**

- = Greater than or equal to EPA RSL residential, but less than the RSL industrial, screening criteria for soil.
- = Greater than or equal to EPA RSL industrial screening criteria for soil, or for TPH the value is greater than or equal to Washington MTCA cleanup levels for soil at unrestricted and industrial properties.
- Bold** = Result detected at or above limit of detection.

**Key:**

- BGS = Below ground surface.
- EPA = Environmental Protection Agency.
- ID = Identification.
- J = The associated numerical value is an estimate.
- MTCA = Model Toxics Control Act.
- mg/kg = Milligrams per kilogram (parts per million).
- µg/kg = Micrograms per kilogram (parts per billion).
- NA = Not applicable.
- PCBs = Polychlorinated biphenyls.
- RSL = Regional screening levels for chemical contaminants at Superfund sites.
- SVOCs = Semivolatile organic hydrocarbons.
- TPH = Total petroleum hydrocarbons.
- U = The analyte was analyzed for, but not detected above the reported sample quantitation limit.

# **G      October 2009 Air Sample Results**

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**Appendix G. October 2009 Air Sample Results (Page 1 of 1)**

Sample Number	Location ID	Sample Date	Volume (liters)	Cassette	Analytical Method	Result (f/cc)	Qualifier
Action Limit (OSHA Permissible Exposure Limit)						0.1	
09-10-1001	AS01	10/14/2009	979	PCM	NIOSH 7400	0.003	U
09-10-1002	AS02	10/14/2009	969	PCM	NIOSH 7400	0.003	U
09-10-1003	AS03	10/14/2009	310	PCM	NIOSH 7400	0.009	U
09-10-1004	AS04	10/14/2009	972	PCM	NIOSH 7400	0.003	U
09-10-1029	AS03	10/15/2009	240	PCM	NIOSH 7400	0.011	U
09-10-1030	AS02	10/15/2009	1,129	PCM	NIOSH 7400	0.002	U
09-10-1031	AS01	10/15/2009	1,144	PCM	NIOSH 7400	0.002	U
09-10-1032	AS04	10/15/2009	1,131	PCM	NIOSH 7400	0.002	U
09-10-1033	AS01	10/16/2009	1,090	PCM	NIOSH 7400	0.002	U
09-10-1034	AS02	10/16/2009	137	PCM	NIOSH 7400	0.02	U
09-10-1035	AS03	10/16/2009	1,085	PCM	NIOSH 7400	0.002	U
09-10-1036	AS04	10/16/2009	1,037	PCM	NIOSH 7400	0.003	U
09-10-1037	AS05	10/19/2009	824	PCM	NIOSH 7400	0.003	U
09-10-1038	AS06	10/19/2009	822	PCM	NIOSH 7400	0.003	U
09-10-1039	AS07	10/19/2009	824	PCM	NIOSH 7400	0.003	U
09-10-1040	AS01	10/19/2009	34	PCM	NIOSH 7400	0.079	U
09-10-1044	AS05	10/20/2009	914	PCM	NIOSH 7400	0.003	U
09-10-1045	AS06	10/20/2009	907	PCM	NIOSH 7400	0.003	U
09-10-1046	AS07	10/20/2009	899	PCM	NIOSH 7400	0.003	U

**Key:**

- f/cc = fibers per cubic centimeter; units for PCM analysis.
- ID = Identification.
- NIOSH = National Institute for Occupational Safety and Health.
- OSHA = Occupational Safety and Health Administration.
- PCM = Phase Contrast Microscopy.
- U = The material was analyzed for but not detected; the numerical value is the sample quantitation limit.

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# **H April 2012 Drum Sample Results**

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Appendix H. April 2012 Drum Sample Results (Page 1 of 1)

EPA Sample ID	TSCA <sup>1</sup>	042012-0001	042012-0002	042012-0003	042012-0004	042012-0005	042012-0006
Sample Description		Drums 10, 18, 26, 29, 31A, 33	Drums 1-9, 11, 15, 16, 24, 25, 27, 28, 34, 36	Drum 35	Drum 20-23, 32	Drum 12-14, 17, 19	Drum 30
Sample Collection Event		Apr-12	Apr-12	Apr-12	Apr-12	Apr-12	Apr-12
<b>PCBs (mg/kg)</b>							
Aroclor-1016	50	0.47 U	0.44 U	0.46 U	0.39 U	0.45 U	0.43 U
Aroclor-1221	50	0.52 U	0.49 U	0.51 U	0.43 U	0.49 U	0.47 U
Aroclor-1232	50	0.52 U	0.49 U	0.51 U	0.43 U	0.49 U	0.47 U
Aroclor-1242	50	0.47 U	0.44 U	0.46 U	0.39 U	0.45 U	0.43 U
Aroclor-1248	50	0.47 U	0.44 U	0.46 U	0.39 U	0.45 U	0.43 U
Aroclor-1254	50	0.47 U	0.44 U	0.46 U	0.39 U	0.45 U	0.43 U
Aroclor-1260	50	0.47 UJL	0.44 UJL	0.46 UJL	0.39 UJL	0.45 UJL	0.43 UJL

**Notes:**

- 1 = Based on 40 CFR 761.
- Greater than or equal to TSCA criteria for PCB waste.**
- Bold** = Result detected at or above limit of detection.

**Key:**

- AST = Above-ground storage tank.
- cm = centimeters.
- CFR = Code of Federal Regulations.
- EPA = Environmental Protection Agency.
- ID = Identification.
- J = The associated numerical value is an estimate.
- L = The associated numerical value has a low bias.
- mg/kg = milligram per kilogram.
- PCBs = Polychlorinated biphenyls.
- SVOCs = Semivolatile Organic Compounds.
- TSCA = Toxic Substances Control Act.
- TPH = Total Petroleum Hydrocarbon.
- U = Contaminant was not detected; the associated numerical value is the sample quantitation limit.
- µg/kg = microgram per kilogram.
- µg/wipe = micrograms per wipe; wipe is equal to 100 cm<sup>2</sup>.
- VOCs = Volatile Organic Compounds.

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# I Disposal Manifests

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<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>	1. Generator ID Number <i>WA 80001002813</i>	2. Page 1 of <i>1</i>	3. Emergency Response Phone <i>206-273-7363</i>	4. Manifest Tracking Number <b>005073465 FLE</b>
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5. Generator's Name and Mailing Address <i>U.S. EPA Region 10 Sublefield Garage site 1200 Sixth Avenue, Suite 900 (ECL-118) Seattle, WA 98101 206-266-2000</i>	Generator's Site Address (if different than mailing address) <i>920 NE Myra Road Walla Walla, WA 99382</i>
Generator's Phone:	

6. Transporter 1 Company Name <i>Starz Exter Tracking Inc</i>	U.S. EPA ID Number <i>WA 8000001363</i>
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7. Transporter 2 Company Name	U.S. EPA ID Number
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8. Designated Facility Name and Site Address <i>US Ecology Idaho, Inc 20400 Lemley Road 860-274-1516 Grandview, ID 83024</i>	U.S. EPA ID Number <i>100073114654</i>
Facility's Phone:	

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
	<i>1. Waste Flammable Liquid, n.o.s., 3, UN1793, PG III</i>	<i>6</i>	<i>DM</i>	<i>3,000</i>	<i>P</i>	<i>D008</i>	<i>D001</i>
	<i>2. Hazardous Waste Liquid, n.o.s., 9, NA3082, PG III</i>	<i>18</i>	<i>DM</i>	<i>9,000</i>	<i>P</i>	<i>D008</i>	
	<i>3. Hazardous Waste Liquid, n.o.s., 9, NA3082, PG III</i>	<i>13</i>	<i>DM</i>	<i>6,500</i>	<i>P</i>		
	<i>4. Hazardous Waste Liquid, n.o.s., 9, NA3082, PG III</i>	<i>10</i>	<i>DM</i>	<i>5,000</i>	<i>P</i>		

14. Special Handling Instructions and Additional Information <i>1.) WS-3.0: 28093-0 2.) WS-4.0: 28105-0 3.) WS-5.0: 28094-0 4.) WS-6.0: 28095-0 Emergency Response # (206) 553-1263</i>
--

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.				
Generator's/Offoror's Printed/Typed Name <i>JERRY POWL W for EPA</i>	Signature <i>[Signature]</i>	Month <i>7</i>	Day <i>12</i>	Year <i>12</i>

16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.	Port of entry/exit:
Transporter signature (for exports only):	Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials				
Transporter 1 Printed/Typed Name <i>[Name]</i>	Signature <i>[Signature]</i>	Month <i>7</i>	Day <i>12</i>	Year <i>12</i>
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

18. Discrepancy					
18a. Discrepancy Indication Space	<input type="checkbox"/> Quantity	<input type="checkbox"/> Type	<input type="checkbox"/> Residue	<input type="checkbox"/> Partial Rejection	<input type="checkbox"/> Full Rejection
18b. Alternate Facility (or Generator)				Manifest Reference Number:	
Facility's Phone:				U.S. EPA ID Number	

18c. Signature of Alternate Facility (or Generator)				Month	Day	Year
---	--	--	--	-------	-----	------

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems):			
1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a				
Printed/Typed Name	Signature	Month	Day	Year



# **J      Pollution Report**

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U.S. ENVIRONMENTAL PROTECTION AGENCY  
 POLLUTION/SITUATION REPORT  
 Stubblefield Salvage - Removal Polrep  
 Initial Removal Polrep



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 Region X**

**Subject:** POLREP #1  
 Initial POLREP  
 Stubblefield Salvage  
 10HD  
 Walla Walla, WA  
 Latitude: 46.0646500 Longitude: -118.3689200

**To:**  
**From:** Greg Weigel, OSC  
**Date:** 10/15/2009  
**Reporting Period:** 10/12/2009 to 10/15/2009

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	10HD	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Time-Critical
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	10/12/2009	<b>Start Date:</b>	10/13/2009
<b>Demob Date:</b>		<b>Completion Date:</b>	
<b>CERCLIS ID:</b>	WAN001002813	<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

#### 1.1.1 Incident Category

Active Production Facility

#### 1.1.2 Site Description

##### 1.1.2.1 Location

The Site is located at 980 NE Myra Road in Walla Walla, Walla Walla County, Washington (46.0646 latitude and -118.3689 longitude). The Site is 11 acres in size and is an operating metals salvage and recycling business. The main salvaging operation consists of a large hydraulic shear used to cut up scrap metal and a large press to compress it into blocks. An abandoned three-story wooden building, which had been used as a rendering plant, is adjacent to the shear and press. Piles of metal scrap cover most of the

rest of the Site.

The Site borders Mill Creek to the north, Myra Road to the west, agricultural land to the east, and a single residence to the south. Population within 1/4 mile of the Site is 102.

Stubblefield Salvage and Recycling, LLC (SS&R), has operated at the Site since the 1960s. Historically, the SS&R property occupied a footprint of approximately 40 acres on the outskirts of Walla Walla. Sometime around 1995, the western half of the 40 acres was sold to the City of Walla Walla, who built a waste water treatment plant at that location. EPA is informed that the scrap material that was on the surface of the now City-owned property was pushed to the eastern area of property still owned by SS&R. Prior to 2007, the SS&R-owned property was approximately 22 acres. In the Fall of 2008, the SS&R property was halved again – the west half of the property was sold and all of the scrap material (that was on the surface, at least) on the west half of the property was pushed over to the east half of the property. Presently, a county road (Myra Road) bisects (north/south) at about the middle of the historical SS&R property. The property to the west of Myra Road and east of the waste water treatment plant was reportedly sold to a developer. All of the processing of scrap metal at the Site, including operation of the hydraulic shear and compactor, and the smelter, has reportedly historically always taken place at its present location, within the footprint of the current 11-acre Site. The property that was sold was reportedly used only for storage of scrap metal.

#### **1.1.2.2 Description of Threat**

Site soils are contaminated with elevated concentrations of heavy metals (lead, arsenic, cadmium, chromium and mercury), PCBs and carcinogenic PAHs. Contents in deteriorated and/or open containers on Site contain VOCs and other hazardous constituents and present a threat of breaching or overtopping. One unmanaged drum contains over 50 ppm PCBs. Shingles and corrugated sheet siding material on the ground contain 15% asbestos. Contaminated soils present a threat of exposure to Site workers or visitors who may come into contact with the contaminated soils either through dermal contact or through inhalation of dust. The Site continues to be an operating metals salvage yard and recycling business. Scrap metal is continuously brought onto the Site and moved around the Site with heavy equipment by Site workers. This activity regularly generates large quantities of dust, increasing the likelihood of exposure to hazardous substances through inhalation. Contaminants in soils also present a threat of downgradient migration to Mill Creek, immediately to the north of the Site. Contents of deteriorated and/or open containers on Site contain VOCs and other hazardous constituents and present a threat of breaching or overtopping (with accumulation of rainfall) and losing their contents to the soil. Heavy equipment moving scrap around the Site could easily encounter and crush or puncture one or more of these drums that are scattered among the scrap piles. Friable asbestos containing materials is on surface soils at the Site. Asbestos fibers may be released to air if the material is disturbed.

#### **1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results**

Washington Department of Ecology referred the Site to EPA Region 10 on April 14, 2009, after determining that likely contamination at the Site was beyond what could be appropriately addressed through their programs. Earlier inspections by Ecology had determined releases to the environment of used oil and other heavy oils, hydraulic fluids, lead and acid contamination from damaged batteries lying uncovered on the ground, and likely polynuclear aromatic hydrocarbon (PAH) releases from spills of used oil and burning of various automobile components on the ground. No sampling was conducted.

EPA conducted a non-sampling Site visit on May 6, 2009, during which he observed the following:

- Approximately 6 large electrical transformers, several of which did not have markings identifying them as containing non-PCB oil, and some of which were leaking oil onto the ground.
- The appearance of heavy oil stained soils in a low area near the hydraulic shear, and other smaller areas of oil stained soil.
- Over 20 drums with unmarked and unknown contents, some of which were open and/or in rusted or damaged condition, and some of which gave off a distinct solvent odor.
- Several large open-top tanks, the largest of which was approximately 800 gallons, that contained a heavy oily substance.
- Broken siding shingles, likely containing asbestos, was on the ground and hanging in damaged condition

on the walls of the shop building. The shingles are weathered, broken and friable

EPA has since conducted two sampling site visits with the START contractor in May and in September 2009. Analytical results indicate elevated concentrations of hazardous substances in surface soils on the Site including heavy metals (lead, arsenic, cadmium, chromium and mercury), PCBs and carcinogenic PAHs. Contents in deteriorated and/or open containers on Site contain VOCs and other hazardous constituents and present a threat of breaching or overtopping. One unmanaged drum had over 50 ppm PCBs. Samples of shingle and corrugated sheet siding material on the ground contained 15% asbestos.

**2. Current Activities**

**2.1 Operations Section**

**2.1.1 Narrative**

An Action Memorandum was approved on September 6, 2009. The removal is being conducted as a Fund-lead action. START and ERRS contractor personnel and equipment mobilized to the Site on October 12, 2009. EPA OSC mobilized on the morning of October 13, 2009.

**2.1.2 Response Actions to Date**

10/13/09 - Personnel on Site: 5 ERRS, 2 START, 1 EPA. Built a staging area for recovered drums and started gathering drums from around the Site. Set up office trailer and communications.  
 10/14/09 - Personnel on Site: 6 ERRS, 3 ERRS subcontractor, 2 START, 1 EPA. ERRS finished gathering drums and staging them in containment area. Total drum count is 60 with liquid content and 19 with sludge. Asbestos abatement subcontractor began removing damaged asbestos siding from the shop building. START set up air monitoring/ sampling stations for asbestos. EPA OSC and START met with a former Stubblefield employee who indicated location of alleged 30 buried drums on property west of Myra Road that was formerly part of the Stubblefield operation, and is now owned by Myra Road Properties, LLC. The allegation is that the drums contain oil drained from transformers that likely contain PCBs. EPA OSC discussed via telephone the removal action with representatives of Washington Department of Ecology.  
 10/15/09 - Personnel on Site: 6 ERRS, 3 ERRS subcontractor, 3 START, 1 EPA. ERRS hazard categorized and consolidated drum waste for disposal. Gathered waste car batteries from a battery disposal area, and various cylinders around the Site - 2 cylinders were identified as anhydrous ammonia cylinders. ERRS subcontractor continued abatement of damaged asbestos siding on building. START continued air monitoring/sampling for asbestos and Site documentation. EPA OSC and START met with representatives of Myra Road Properties, LLC, that own property west of Myra Road where there are alleged buried drums from former Stubblefield operation. OSC had already received a signed consent for access agreement to the property. Property owners agreed to clear vegetation in area of concern - approximately 2 acres. START is arranging for a geophysical survey of the area to confirm and identify location of buried drums. This work will be conducted under a separate START TDD. EPA OSC met on-Site with representatives from Walla Walla County to discuss the removal action.

**2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)**

Identified PRPs include Stubblefield Salvage and Recycling, LLC, as well as its owners and officers.

**2.1.4 Progress Metrics**

<b><i>Waste Stream</i></b>	<b><i>Medium</i></b>	<b><i>Quantity</i></b>	<b><i>Manifest #</i></b>	<b><i>Treatment</i></b>	<b><i>Disposal</i></b>

## 2.2 Planning Section

### 2.2.1 Anticipated Activities

#### 2.2.1.1 Planned Response Activities

Complete removal of drummed hazardous wastes. Excavate and remove for disposal contaminated surface soils that exceed action levels for metals, PAHs and PCBs (Washington State ARARs are being used for cleanup levels, where practicable considering the exigencies of the situation). Complete removal of friable asbestos containing material.

The present mobilization is Phase I of the planned removal, to address surface hazardous substances and contamination. Additional planning and engineering is required for the Phase II part of the removal, to address a soil contaminant source area at depth that extends beneath the heavy hydraulic equipment and building. START is preparing an engineering alternatives analysis to identify options to excavate the accessible contamination and address the mobility potential of contamination under the equipment and building. Mobilization for Phase II of the removal is anticipated in November.

#### 2.2.1.2 Next Steps

ERRS will manage disposal of drummed waste. ERRS subcontractor will complete abatement of damaged asbestos siding on shop building and will address the large pile of asbestos containing panels that is intermingled with metal scrap and dirt in the NE corner of the Site. ERRS will provide support for moving material with loader and/or excavator. START will identify "hot spots" of metals contaminated soils (including former battery storage areas) in upland area of Site that exceed action levels for excavation by ERRS.

### 2.2.2 Issues

In addition to the planned removal, a concurrent effort is underway to evaluate the existence and location of alleged buried drums on the property directly to the west of the Site, that was formerly part of the Stubblefield Salvage operation. The adjacent property is considered, at this time, a separate site.

## 2.3 Logistics Section

No information available at this time.

## 2.4 Finance Section

No information available at this time.

## 2.5 Other Command Staff

No information available at this time.

## 3. Participating Entities

No information available at this time.

## 4. Personnel On Site

As of 10/15/2009:

ERRS - 5

ERRS subcontractor - 3

START - 3

EPA - 1

## 5. Definition of Terms

PAHs - Polycyclic Aromatic Hydrocarbons

OSC - On-Scene Coordinator

PCBs - Polychlorinated Biphenyls

ARARs - Applicable or Relevant and Appropriate Requirements

VOCs - Volatile Organic Compounds

## **6. Additional sources of information**

No information available at this time.

## **7. Situational Reference Materials**

No information available at this time.

U.S. ENVIRONMENTAL PROTECTION AGENCY  
 POLLUTION/SITUATION REPORT  
 Stubblefield Salvage - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 Region X

**Subject:** POLREP #2  
 Interim  
 Stubblefield Salvage  
 10HD  
 Walla Walla, WA  
 Latitude: 46.0646500 Longitude: -118.3689200

**To:**  
**From:** Greg Weigel, OSC  
**Date:** 10/23/2009  
**Reporting Period:** 10/16/2009 - 10/23/2009

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	10HD	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	9/6/2009
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Time-Critical
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	10/12/2009	<b>Start Date:</b>	10/13/2009
<b>Demob Date:</b>	10/23/2009	<b>Completion Date:</b>	
<b>CERCLIS ID:</b>	WAN001002813	<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

**1.1.1 Incident Category**  
 Active Production Facility.

**1.1.2 Site Description**  
 See POLREP 1.

**1.1.2.1 Location**

**1.1.2.2 Description of Threat**

**1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results**

## 2. Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

An Action Memorandum was approved on September 6, 2009. The removal is a Fund-lead action. START and ERRS contractor personnel and equipment mobilized to begin work at the Site on October 13, 2009. Completed Phase 1 of the removal, addressing surface contamination issues, and temporarily demobilized on October 23, 2009. Phase 2 of the planned removal action, to address PCB and PAH contaminated soils at depth, is pending additional characterization and analysis of engineering alternatives.

#### 2.1.2 Response Actions to Date (for reporting period)

10/16/09 - ERRS continued consolidating drummed wastes. ERRS asbestos abatement subcontractor completed removal of damaged and friable asbestos siding from shop building and cleanup around building. START contractor identified extent of contamination above action level of previously identified "hot spots" with high lead concentration in surface soils - one being a broken battery storage area and the others contaminated from unknown source. START continued operating air sampling stations for asbestos.

10/17/09 - ERRS excavated surface contaminated soils, to a maximum depth of approximately 1 foot, at the 3 identified lead contaminated "hot spots." START conducted cleanup confirmation using field portable Innovex XRF. Selected action/cleanup level is Washington MTCA cleanup standard for industrial soils of 1,000 ppm lead. Total approximately 75 cubic yards soils excavated at the three locations, and temporarily staged on Site.

10/18/09 - Day off.

10/19/09 - OSC Fowlow arrived to replace OSC Weigel, who demobilized. ERRS and ERRS asbestos abatement subcontractor began addressing the large pile of friable asbestos containing material at the NE corner of the Site. Reportedly, some years ago approximately 20 tons of 4' by 8' asbestos containing corrugated sheet panels were received at the Site. Since that time the panels have become broken and intermingled with metal scrap and dirt that have been piled over the asbestos panels. ERRS began segregating the scrap and uncontaminated material from the pile of asbestos panels and intermingled dirt with broken up ACM pieces. START continued operating asbestos sampling stations.

10/20/09 - ERRS and ERRS subcontractor continued segregating ACM and ACM contaminated soils and loading into 20 yard roll-off bins.

10/21/09 - ERRS loaded out for disposal 5 trucks of lead soils (approximately 75 cubic yards). Continued segregating and loading ACM and ACM contaminated soils. Loaded out non-PCB liquid waste via vac truck. START demobilized.

10/22/09 - ERRS shipped off for disposal remaining drums. Finished loading and shipping ACM and ACM contaminated soils. Deconned equipment for demobilization.

10/23/09 - ERRS demobilized all personnel and equipment, except office trailer.

#### 2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Identified PRPs include Stubblefield Salvage and Recycling, LLC, as well as its owners and officers.

#### 2.1.4 Progress Metrics

<i><b>Waste Stream</b></i>	<i><b>Medium</b></i>	<i><b>Quantity</b></i>	<i><b>Manifest #</b></i>	<i><b>Treatment</b></i>	<i><b>Disposal</b></i>

<b>Non-RCRA lead soils</b>	<b>Soils</b>	<b>75 cy</b>			
<b>Asbestos waste</b>	<b>Soils</b>	<b>150 cy</b>			
<b>PCB oils and sludge</b>		<b>7 drums</b>			
<b>PCB oils and water</b>		<b>11 drums</b>			
<b>Non-TSCA PCB debris</b>		<b>40 cy</b>			
<b>Paint related material</b>		<b>3 drums</b>			

## 2.2 Planning Section

### 2.2.1 Anticipated Activities

#### 2.2.1.1 Planned Response Activities

The present mobilization is Phase I of the planned removal, to address surface hazardous substances and contamination. Additional planning and engineering is required for the Phase II part of the removal, to address a soil contaminant source area at depth that extends beneath the heavy hydraulic equipment and building. START is preparing an engineering alternatives analysis to identify options to excavate the accessible contamination and address the mobility potential of contamination under the equipment and building. Mobilization for Phase II of the removal is anticipated in November.

#### 2.2.1.2 Next Steps

#### 2.2.2 Issues

## 2.3 Logistics Section

No information available at this time.

## 2.4 Finance Section

No information available at this time.

## 2.5 Other Command Staff

No information available at this time.

## 3. Participating Entities

No information available at this time.

## 4. Personnel On Site

For most of reporting period 10/16 - 1/23/09:

ERRS - 5

ERRS subcontractor - 3

START - 2

EPA - 1

## 5. Definition of Terms

PAHs - Polycyclic Aromatic Hydrocarbons

OSC - On-Scene Coordinator

PCBs - Polychlorinated Biphenyls

ARARs - Applicable or Relevant and Appropriate Requirements

VOCs - Volatile Organic Compounds

ACM - Asbestos Containing Material

MTCA - Washington State's Model Toxics Control Act

**6. Additional sources of information**

No information available at this time.

**7. Situational Reference Materials**

No information available at this time.

U.S. ENVIRONMENTAL PROTECTION AGENCY  
 POLLUTION/SITUATION REPORT  
 Stubblefield Salvage - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 Region X

**Subject:** POLREP #3  
 Progress  
 Stubblefield Salvage  
 10HD  
 Walla Walla, WA  
 Latitude: 46.0646500 Longitude: -118.3689200

**To:**

**From:** Greg Weigel, OSC

**Date:** 3/16/2010

**Reporting Period:** 10/24/2009 - 3/16/2010

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	10HD	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	9/6/2009
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Time-Critical
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	10/12/2009	<b>Start Date:</b>	10/13/2009
<b>Demob Date:</b>	10/23/2009	<b>Completion Date:</b>	
<b>CERCLIS ID:</b>	WAN001002813	<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

#### 1.1.1 Incident Category

Active Production Facility.

#### 1.1.2 Site Description

See POLREP 1.

##### 1.1.2.1 Location

##### 1.1.2.2 Description of Threat

##### 1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

See POLREP 1.

## 2. Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

An Action Memorandum was approved on September 6, 2009. Phase 1 of the removal, addressing surface hazardous waste issues, including the characterization and removal of drums of hazardous waste, excavation and removal of lead-contaminated surface soils, and removal of friable asbestos containing material, was completed on October 23, 2009. Known remaining contamination at the site includes surface and subsurface soils with high concentrations (above residential land-use screening levels) of PCBs, SVOCs and various metals. The contaminated area is underneath and downgradient of the main materials processing area, where heavy hydraulic equipment (including a large metals shredder and bailer) has been observed to be leaking, and has reportedly been leaking for 30 years. The conceptual site model for this area is that the equipment has been leaking hydraulic fluid more or less continually for 30 years, and that there have reportedly been other larger releases from the hydraulic oil storage tank utilized by the equipment. It has also been reported that various used oils, including potentially PCB contaminated transformer oils, have been used in the equipment. As a result, the soils in the area and extending north towards Mill Creek appear to be oil saturated. Analytical data from geoprobe samples collected in September, 2009 show high concentrations of PCBs and SVOCs and some metals up to 8 foot depth.

#### 2.1.2 Response Actions to Date (for reporting period)

EPA's START contractor completed a Technical Memorandum: *Alternatives Evaluation for the Stubblefield Salvage Yard* addressing this decision area on March 5, 2010, which identified possible removal alternatives and data gaps. A significant data gap is full characterization of the vertical or horizontal extent of contamination, and potential impact of contaminated soils to ground water. Additionally, groundwater gradient is not known, but is thought to flow north toward Mill Creek, approximately 150 feet north of the known contamination. To address this data gap and be able to select and design a removal action that is protective of public health and the environment, the OSC determined the need to install temporary groundwater monitoring wells and conduct additional soil sampling.

On 3/15/10, the EPA OSC and START contractor re-mobilized to the site to install 4 groundwater monitoring wells and conduct additional borings to collect soil samples in order to better delineate the vertical and lateral extent of contamination. In the afternoon we identified boring locations and conducted a utilities locate.

On 3/16/10, the drilling subcontractor arrived, and installed the first 2 monitoring wells. Soil samples were collected for laboratory analysis.

Also on 3/16/10, the OSC and START contractor met with the property owner of the property west of the current Stubblefield Salvage site (referred to as the Myra Road property), which was formerly part of the salvage operation and was sold 2 years ago. This was to follow up on the geophysical survey of that property that was conducted on October 20, 2009. The OSC had tasked START to conduct the survey as a result of a former employee who alleged that he had participated in the burial of drums at the property in 2001. The geophysical survey had been inconclusive regarding the identification of any buried drum locations, but had recommended the digging of test pits at several locations where amorphous anomalies had been detected. The OSC had arranged with the property owner, who also owns an excavation company, to dig the test pits with OSC and START oversight. Five test pits were dug at pre-selected locations, based on the previous geophysical survey. Test pits were dug from 6 to 11 feet depth. Nothing to indicate the possibility of buried drums was found. This activity concludes the Myra Road investigation.

#### 2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Identified PRPs include Stubblefield Salvage and Recycling, LLC, as well as its owners and officers.

#### 2.1.4 Progress Metrics

**From Phase 1 removal:**

<b>Waste Stream</b>	<b>Medium</b>	<b>Quantity</b>	<b>Manifest #</b>	<b>Treatment</b>	<b>Disposal</b>
Non-RCRA lead soils	Soils	75 cy			
Asbestos waste	Soils	150 cy			
PCB oils and sludge		7 drums			
PCB oils and water		11 drums			
Non-TSCA PCB debris		40 cy			
Paint related material		3 drums			

## 2.2 Planning Section

### 2.2.1 Anticipated Activities

Data from groundwater and soils sampling will be evaluated to determine a proper removal course of action.

#### 2.2.1.1 Planned Response Activities

Installation of the 4 monitoring wells and soils and groundwater sampling is expected to be completed by 3/19/10.

#### 2.2.1.2 Next Steps

#### 2.2.2 Issues

## 2.3 Logistics Section

No information available at this time.

## 2.4 Finance Section

No information available at this time.

## 2.5 Other Command Staff

No information available at this time.

## 3. Participating Entities

No information available at this time.

## 4. Personnel On Site

As of 3/16/2010:

START - 3

START subcontractor - 3

EPA - 1

## 5. Definition of Terms

PAHs - Polycyclic Aromatic Hydrocarbons  
OSC - On-Scene Coordinator  
PCBs - Polychlorinated Biphenyls  
ARARs - Applicable or Relevant and Appropriate Requirements  
VOCs - Volatile Organic Compounds  
ACM - Asbestos Containing Material  
MTCA - Washington State's Model Toxics Control Act

**6. Additional sources of information**

No information available at this time.

**7. Situational Reference Materials**

No information available at this time.

U.S. ENVIRONMENTAL PROTECTION AGENCY  
 POLLUTION/SITUATION REPORT  
 Stubblefield Salvage - Removal Polrep



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 Region X**

**Subject:** POLREP #4  
 Progress  
 Stubblefield Salvage  
 10HD  
 Walla Walla, WA  
 Latitude: 46.0646500 Longitude: -118.3689200

**To:**  
**From:** Greg Weigel, OSC  
**Date:** 6/16/2010  
**Reporting Period:** March to June, 2010

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	10HD	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	9/6/2009
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Time-Critical
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	10/12/2009	<b>Start Date:</b>	10/13/2009
<b>Demob Date:</b>	10/23/2009	<b>Completion Date:</b>	
<b>CERCLIS ID:</b>	WAN001002813	<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

#### 1.1.1 Incident Category

Active Production Facility.

#### 1.1.2 Site Description

See POLREP 1.

##### 1.1.2.1 Location

##### 1.1.2.2 Description of Threat

##### 1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

See POLREP 1.

## 2. Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

An Action Memorandum was approved on September 6, 2009. Phase 1 of the removal, addressing surface hazardous waste issues, including the characterization and removal of drums of hazardous waste, excavation and removal of lead-contaminated surface soils, and removal of friable asbestos containing material, was completed on October 23, 2009. Known remaining contamination at the site includes surface and subsurface soils with high concentrations (above residential land-use screening levels) of PCBs, SVOCs and various metals. The contaminated area is underneath and downgradient of the main materials processing area, where heavy hydraulic equipment (including a large metals shredder and bailer) has been observed to be leaking, and has reportedly been leaking for 30 years. The conceptual site model for this area is that the equipment has been leaking hydraulic fluid more or less continually for 30 years, and that there have reportedly been other larger releases from the hydraulic oil storage tank utilized by the equipment. It has also been reported that various used oils, including potentially PCB contaminated transformer oils, have been used in the equipment. As a result, the soils in the area and extending north towards Mill Creek appear to be oil saturated. Analytical data from geoprobe samples collected in September, 2009 show high concentrations of PCBs and SVOCs and some metals up to 8 foot depth.

#### 2.1.2 Response Actions to Date (for reporting period)

On March 5, 2010 EPA's START contractor completed a Technical Memorandum: *Alternatives Evaluation for the Stubblefield Salvage Yard*, which identified removal alternatives and data gaps regarding soils contamination underneath and downgradient of the main materials processing area (the "source area"), that were not addressed in the Phase 1 removal.

On March 15, 2010 the EPA OSC and START contractor re-mobilized to the site to install 4 groundwater monitoring wells to evaluate potential groundwater contamination and groundwater flow gradient and direction, and conduct additional borings to collect soil samples in order to better delineate the vertical and lateral extent of contamination in the source area.

On June 15, 2010 the START contractor submitted a final Final Technical Memorandum: *Monitoring Well Installation at the Stubblefield Salvage Yard*. Groundwater sample analysis showed that no analyzed constituents exceeded applicable Washington State MTCA screening criteria (which were identified as ARARs for the site). Aroclor 1242 (PCB), however, was observed in groundwater downgradient from the source area at a level that exceeds the more conservative EPA Regional Screening Level. Soil sample analytical results supported the areal extent of the source area identified in the *Alternatives Evaluation*.

#### 2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Identified PRPs include Stubblefield Salvage and Recycling, LLC, as well as its owners and officers. Phase 1 removal activities at the site were conducted as EPA Fund-lead. It is anticipated that EPA will attempt to negotiate a consent agreement with PRP(s) for necessary Phase 2 cleanup of contaminated soils in the source area.

#### 2.1.4 Progress Metrics

From Phase 1 removal:

<b>Waste Stream</b>	<b>Medium</b>	<b>Quantity</b>	<b>Manifest #</b>	<b>Treatment</b>	<b>Disposal</b>
Non-RCRA lead soils	Soils	75 cy			

<b>Asbestos waste</b>	<b>Soils</b>	<b>150 cy</b>			
<b>PCB oils and sludge</b>		<b>7 drums</b>			
<b>PCB oils and water</b>		<b>11 drums</b>			
<b>Non-TSCA PCB debris</b>		<b>40 cy</b>			
<b>Paint related material</b>		<b>3 drums</b>			

## 2.2 Planning Section

### 2.2.1 Anticipated Activities

EPA will send a letter to PRP(s) inviting them to enter negotiations for a consent agreement to implement Phase 2 removal activities, to excavate and remove contaminated soils in the source area necessary to protect public health and the environment.

#### 2.2.1.1 Planned Response Activities

Implement Phase 2 removal of contaminated soils by summer of 2010.

#### 2.2.1.2 Next Steps

### 2.2.2 Issues

## 2.3 Logistics Section

No information available at this time.

## 2.4 Finance Section

No information available at this time.

## 2.5 Other Command Staff

No information available at this time.

## 3. Participating Entities

No information available at this time.

## 4. Personnel On Site

No information available at this time.

## 5. Definition of Terms

No information available at this time.

## 6. Additional sources of information

No information available at this time.

## 7. Situational Reference Materials

No information available at this time.



U.S. ENVIRONMENTAL PROTECTION AGENCY  
 POLLUTION/SITUATION REPORT  
 Stubblefield Salvage - Removal Polrep  
 Final Removal Polrep



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
 Region X**

**Subject:** POLREP #5  
 Final POLREP Phase 1 Removal  
 Stubblefield Salvage  
 10HD  
 Walla Walla, WA  
 Latitude: 46.0646500 Longitude: -118.3689200

**To:**

**From:** Jeffrey Fowlow, OSC

**Date:** 4/9/2012

**Reporting Period:** March 2010-April 2012

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	10HD	<b>Contract Number:</b>	
<b>D.O. Number:</b>		<b>Action Memo Date:</b>	9/6/2009
<b>Response Authority:</b>	CERCLA	<b>Response Type:</b>	Time-Critical
<b>Response Lead:</b>	EPA	<b>Incident Category:</b>	Removal Action
<b>NPL Status:</b>	Non NPL	<b>Operable Unit:</b>	
<b>Mobilization Date:</b>	10/12/2009	<b>Start Date:</b>	10/13/2009
<b>Demob Date:</b>	4/13/2012	<b>Completion Date:</b>	
<b>CERCLIS ID:</b>	WAN001002813	<b>RCRIS ID:</b>	
<b>ERNS No.:</b>		<b>State Notification:</b>	
<b>FPN#:</b>		<b>Reimbursable Account #:</b>	

#### 1.1.1 Incident Category

Inactive Production Facility.

#### 1.1.2 Site Description

See POLREP 1.

##### 1.1.2.1 Location

##### 1.1.2.2 Description of Threat

This POLREP focuses on the removal of the (then estimated) 50 drums staged at various locations

throughout the site. Many of the drums were thought to have been generated during the shut down of the metal salvaging operations and abandoned. The drums contained waste oil, other fuels, waste oil-contaminated debris, and unknowns. The drums were in poor condition, unlabeled, and exposed to the elements. Evidence of leaking or spills were observed in the adjacent surface soil.

### 1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

See POLREP 1.

## 2. Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

An Action Memorandum was approved on September 6, 2009. Phase 1 of the removal, addressing surface hazardous waste issues, including the characterization and removal of drums of hazardous waste, excavation and removal of lead-contaminated surface soils, and removal of friable asbestos containing material, was completed on October 23, 2009. Known remaining contamination at the site includes surface and subsurface soils with high concentrations (above residential land-use screening levels) of PCBs, SVOCs and various metals. The contaminated area is underneath and downgradient of the main materials processing area, where heavy hydraulic equipment (including a large metals shredder and bailer) has been observed to be leaking, and has reportedly been leaking for 30 years. The conceptual site model for this area is that the equipment has been leaking hydraulic fluid more or less continually for 30 years, and that there have reportedly been other larger releases from the hydraulic oil storage tank utilized by the equipment. It has also been reported that various used oils, including potentially PCB contaminated transformer oils, have been used in the equipment. As a result, the soils in the area and extending north towards Mill Creek appear to be oil saturated. Analytical data from geoprobe samples collected in September, 2009 show high concentrations of PCBs and SVOCs and some metals up to 8 foot depth.

The final step of this Removal Action was initiated with the approval of the 12-Month Exemption, Change in Scope, and Ceiling Increase Amendment to the Action Memorandum dated April 3, 2012. This Amendment funded the removal and disposal of approximately fifty 55-gallon drums that were likely generated and abandoned during the cessation of salvaging operations at the site in 2010.

#### 2.1.2 Response Actions to Date (for reporting period)

Field operation for this final reporting period began on Monday, April 9 and lasted through Friday, April 13, 2012. When EPA and contractors arrived on site, the number of drums increased from approximately 50 to approximately 60. Also the labeling affixed to the drums by a contractor retained by the operators of Stubblefield Salvage had faded or disintegrated due to age and exposure to the elements. Because most of the labels were illegible or missing, START sampled and performed modified hazard categorization analysis to help the ERRS contractor assign waste category.

On **Tuesday, April 10 and Wednesday, April 11**, ERRS consolidated and overpacked drums in to steel salvage drums and staged the wastes into waste streams. ERRS also surveyed the other areas of the site and recovered drums of oily soil and waste liquid from a number of places. In total, approximately 65 drums of oily liquid and solid waste were recovered and, when possible, bulked into the steel salvage drums. One 300-gallon polyethylene container of pesticide/herbicide also was emptied into 6 salvage drums and staged for disposal. Once the containers were emptied of waste, ERRS used an excavator bucket to crush the containers. Once the drums were removed from the storage areas, ERRS used an excavator to scrape areas of obviously contaminated soil. Excavated soil, crushed drums, and Investigation Derived Waste (PPE, etc) was disposed in a 20 yard roll off container.

ERRS also picked up and prepared for disposal 5 drums of purge water from monitoring well installation and decontamination water from previous EPA investigations. A total of 7 drums of soil cuttings generated during monitoring well installation were emptied of content into the 20 yard roll off bin and crushed.

On **Thursday, April 12**, a total of 61 drums, representing 6 waste streams was loaded onto a truck bound for the US Ecology disposal facility in Grandview, Idaho.

Also on Thursday, April 12, EPA directed ERRS to use the excavator to remove brush and debris from a wooded swale area in the northwest corner of the property near the former processing area. EPA and START had previously observed drums in this area and samples collected during the removal assessment had shown elevated concentrations of site contaminants to be present. It was obvious that this area had received lots of waste and debris in the past. ERRS removed dozens of tires and dozens more were left behind. ERRS also recovered scrap metal, household trash, and other debris. A total of five 55-gallon drums were recovered. All of the drums were without significant content, EPA directed START to collect two composite samples from distinct areas of the swale.

On **Friday, April 13, 2012**, the 20 yard roll off container with non-RCRA debris was transported off site for disposal. All EPA, ERRS, and START personnel demobilized.

### 2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Identified PRPs include Stubblefield Salvage and Recycling, LLC, as well as its owners and officers. Phase 1 removal activities (2009) and the drum removal (2012) at the site were conducted as EPA Fund-lead. It is anticipated that EPA will attempt to negotiate a consent agreement with PRP(s) for necessary Phase 2 cleanup of contaminated soils in the source area.

### 2.1.4 Progress Metrics

From Phase 1 (2009) and Drum (2012) removal:

<b>Waste Stream</b>	<b>Medium</b>	<b>Quantity</b>	<b>Manifest #</b>	<b>Treatment</b>	<b>Disposal</b>
Non-RCRA lead soils	Soils	75 cy			
Asbestos waste	Soils	150 cy			
PCB oils and sludge		7 drums			
PCB oils and water		11 drums			
Non-TSCA PCB debris		40 cy			
Paint related material		3 drums			
Malathion (2012)	Liquid	6 drums			
Waste Flam. Liquid (2012)	Liquid	6 drums			
Waste oil with lead (2012)	Liquid	18 drums			
Waste oil (2012)	Liquid	13 drums			
Haz Waste Liquid (nos) (2012)	Liquid	10 drums			
Haz Waste Solid (nos) (2012)	Solid	8 drums			

<b>Non-RCRA solid waste</b>	<b>Solid</b>	<b>20 cy</b>			
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## 2.2 Planning Section

### 2.2.1 Anticipated Activities

EPA will send a letter to PRP(s) inviting them to enter negotiations for a consent agreement to implement Phase 2 removal activities, to excavate and remove contaminated soils in the source area necessary to protect public health and the environment.

#### 2.2.1.1 Planned Response Activities

This removal action has been completed..

#### 2.2.1.2 Next Steps

EPA will conduct an Engineering Evaluation/Cost Analysis (EE/CA) to evaluate the potential action (Phase 2) of contaminated soils in the processing area. The EE/CA is anticipated to be completed by the end of summer 2012 and the potential removal action could begin in fall 2012.

#### 2.2.2 Issues

## 2.3 Logistics Section

No information available at this time.

## 2.4 Finance Section

No information available at this time.

## 2.5 Other Command Staff

No information available at this time.

## 3. Participating Entities

No information available at this time.

## 4. Personnel On Site

For the April 2012 drum removal action:

EPA - 1

ERRS - 4

START - 2

## 5. Definition of Terms

No information available at this time.

## 6. Additional sources of information

No information available at this time.

## 7. Situational Reference Materials

No information available at this time.

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# **K Data Memoranda**

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# ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: June 23, 2009

TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Inorganic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**

REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 11 solid and 2 water samples collected from the Stubblefield Salvage site located in Walla Walla, Washington has been completed. Target Analyte List (TAL) metals analyses (EPA Methods 6010, 6020, and 7471) were performed by Pace Laboratories, Inc., Seattle, Washington.

The samples were numbered:

09050702	09050703	09050704	09050720	09050721
09050722	09050723	09050724	09050725	09050726
09050727	09050705	09050706		

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

All liquid samples were preserved to a pH < 2. The samples were maintained at 4°C (± 2°C). The samples were collected on May 21, 2009, and were analyzed by June 11, 2009, therefore meeting QC criteria of less than 6 months between collection, extraction, and analysis (28 days for mercury).

#### 2. **Initial and Continuing Calibration: Satisfactory.**

A minimum of one calibration standard and a blank were analyzed at the beginning of the ICP analysis sequence and after every 10 samples. No results were greater than 110% of the highest calibration standard. All ICP recoveries were within the QC limits of 90% to 110% except calcium with low recoveries in several calibrations (associated positive results and sample quantitation limits were qualified as estimated quantities [J or UJ]) and antimony, barium, beryllium, magnesium, manganese, selenium, sodium, and thallium with high recoveries in one or more calibrations (associated positive results were qualified as estimated quantities (J). All AA recoveries were within QC limits of 80% to 120%.

#### 3. **Blanks: Satisfactory.**

A preparation blank was analyzed for each 20 samples or per matrix per concentration level. Blanks were analyzed after each Initial or Continuing Calibration Verification. Associated sample results were qualified as not detected (U) if the sample result was less than five times the positive blank concentration. Associated sample results were qualified as estimated quantities (J or UJ) if the sample

result was less than five times the absolute value of the negative blank concentration.

**4. ICP Interference Check Sample: Satisfactory.**

An Interference Check Sample (ICS) was analyzed at the beginning and end of each sequence or at least twice every 8 hours, whichever was more frequent. All ICS (solution AB) results were within QC limits of 80% - 120% recovery silver in the water analysis (high recovery). Positive sample results associated with the high recovery outlier were qualified as estimated quantities (J).

**5. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**6. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**7. ICP Serial Dilution: Satisfactory.**

A serial dilution analysis was performed per matrix per concentration or per sample delivery group, whichever was more frequent. All serial dilution results were within QC limits except antimony and zinc. Associated sample results were qualified as estimated quantities (J or UJ).

**8. Matrix Spike Analysis: Satisfactory.**

A matrix spike analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. Spike and spike duplicate recoveries were within the QC limits except magnesium (low recovery) in sample 09050705. Sample results associated with the low recovery outliers were qualified as estimated quantities (J or UJ).

**9. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**10. Serial Dilution Analysis: Satisfactory.**

A serial dilution analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All serial dilution results were within QC limits except antimony, cadmium, iron, nickel, selenium, zinc, copper, and magnesium in the soil analysis. Associated positive results and sample quantitation limits were qualified as estimated quantities (J or UJ).

**11. Laboratory Control Sample Analysis: Satisfactory.**

A Laboratory Control Sample (LCS) was analyzed per SDG per matrix. All LCS results were within the established control limits except magnesium, selenium, and thallium (low recoveries) in the soil LCS. Sample results associated with the low recovery outliers were qualified as estimated quantities (J or UJ).

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National

Functional Guidelines for Inorganic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample detection limits but greater than the instrument detection limits or because quality control criteria limits were not met.
- R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

SW-846

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INORGANIC ANALYSES DATA SHEET

SAMPLE NO.

09-05-0704

Lab Name: Pace Analytical Services

Contract: \_\_\_\_\_

Lab Code: PACE

SDG No.: S10HD01

Matrix (soil/water): Soil

Lab Sample ID: S10HD01-004

Level (low/med): LOW

Date Received: 05/22/2009

% Solids: 83

Concentration Units : mg/Kg

CAS No.	Analyte	Concentration	C	Q	M	Run Seq.
7429-90-5	Aluminum	10300			P	R036760
7440-36-0	Antimony	5.1	UJ	EN	P	R036760
7440-38-2	Arsenic	7.5	J		P	R036760
7440-39-3	Barium	132			P	R036760
7440-41-7	Beryllium	0.41		*N	P	R036760
7440-43-9	Cadmium	4.1	J	EN	P	R036760
7440-70-2	Calcium	5560			P	R036760
7440-47-3	Chromium	8.9		*N	P	R036760
7440-48-4	Cobalt	11.6	J		P	R036760
7440-50-8	Copper	32.4	J	E	P	R036697
7439-89-6	Iron	31500	J	E	P	R036760
7439-92-1	Lead	6930			P	R036760
7439-95-4	Magnesium	3680	J	EMU	P	R036697
7439-96-5	Manganese	392	J		P	R036760
7440-02-0	Nickel	9.6	J	E*N	P	R036760
7440-09-7	Potassium	3750			P	R036760
7782-49-2	Selenium	0.61	J	ENM	P	R036760
7440-22-4	Silver	0.035	UJ	*N	P	R036760
7440-23-5	Sodium	309		*N	P	R036760
7440-28-0	Thallium	0.29	UJ	*M	P	R036760
7440-62-2	Vanadium	96.9			P	R036760
7440-66-6	Zinc	74.3	J	E	P	R036760

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Comment \_\_\_\_\_

Date Printed: 6/20/2009 7:42

A1016 with a low recovery associated with samples 09050701, 09050702, 09050703, and 09050704 (associated positive results and sample quantitation limits were qualified as estimated quantities [J or UJ]).

**4. Error Determination: Not Provided.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

**5. Blanks: Acceptable.**

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and for each concentration level, or every 20 samples, whichever is greater, and for each analytical system. No target analytes were detected in any blanks.

**6. Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**7. System Monitoring Compounds (SMCs): Satisfactory.**

All recoveries of the SMCs were within the established control limits except one low pesticide SMC recovery in QC samples (no action taken), two high pesticide SMCs in a QC sample (no action taken), 09050703, 09050703DL (associated positive results were qualified as estimated quantities [J]), one high recovery in PCB samples 09050701, 09050702, 09050703, 09050702DL, and 09050703DL (associated positive results were qualified as estimated quantities [J]), and two high PCB SMCs in samples 09050702MS and 09050702MSD (no action taken for these QC samples).

**8. Blank and Matrix Spikes: Satisfactory.**

Recoveries of all spiked analytes were within the appropriate control limits except aldrin with a low recovery in the water blank spike sample (associated positive results and sample quantitation limits were qualified as estimated quantities [J or UJ]), and A1016 with high recoveries in sample 09050702 (associated positive results were qualified as estimated quantities [J]).

**9. Duplicates: Satisfactory.**

Relative Percent Differences (RPDs) of all spiked analytes were within the required control limits except in PCB sample 09050705 (A1016 and A1260 results were qualified as estimated quantities [J or UJ]).

**10. Compound Identification: Satisfactory.**

Positive sample results with percent differences between the columns greater than 25% were qualified as estimated quantities (J).

**11. Target Compound Quantitation and Quantitation Limits: Acceptable.**

Sample results and quantitation limits were correctly calculated.

**12. Laboratory Contact**

No laboratory contact was required.

**13. Overall Assessment**

The overall usefulness of the data is based on the criteria outlined in the site-specific sampling plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

#### Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
- R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0720

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.22 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036654  
 Lab Sample ID: S10HD01-016  
 Lab File ID: g5270911.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/27/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/kg	Q
319-84-6	alpha-BHC	360	U
319-85-7	beta-BHC	360	U
319-85-8	delta-BHC	360	U
58-89-9	gamma-BHC	360	U
76-44-8	Heptachlor	360	U
309-00-2	Aldrin	360	U
1024-57-3	Heptachlor epoxide	360	U
959-98-8	Endosulfan I	360	U
60-57-1	Dieldrin	740	U
72-55-9	4,4'-DDE	740	U
72-20-8	Endrin	740	U
33213-65-9	Endosulfan II	740	U
72-54-8	4,4'-DDD	740	U
1031-07-8	Endosulfan sulfate	740	U
50-29-3	4,4'-DDT	740	U
72-43-5	Methoxychlor	3600	U
7421-93-4	Endrin aldehyde	740	U
5103-71-9	alpha-Chlordane	360	U
53494-70-5	Endrin ketone	740	U
5103-74-2	gamma-Chlordane	360	U
8001-35-2	Toxaphene	45000	U

Comments:

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*6-15-09*

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0721

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.21 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036654  
 Lab Sample ID: S10HD01-017  
 Lab File ID: q5270912.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/27/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/kg	Q
319-84-6	alpha-BHC	380	U
319-85-7	beta-BHC	380	U
319-86-8	delta-BHC	380	U
58-89-9	gamma-BHC	380	U
76-44-8	Heptachlor	380	U
309-00-2	Aldrin	380	U
1024-57-3	Heptachlor epoxide	380	U
959-98-8	Endosulfan I	380	U
60-57-1	Dieldrin	770	U
72-55-9	4,4'-DDE	770	U
72-20-8	Endrin	770	U
33213-65-9	Endosulfan II	770	U
72-54-8	4,4'-DDD	770	U
1031-07-8	Endosulfan sulfate	770	U
50-29-3	4,4'-DDT	770	U
72-43-5	Methoxychlor	3800	U
7421-93-4	Endrin aldehyde	770	U
5103-71-9	alpha-Chlordane	380	U
53494-70-5	Endrin ketone	770	U
5103-74-2	gamma-Chlordane	380	U
8001-35-2	Toxaphene	48000	U

Comments:

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*6-15-09*

1  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0722

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.20 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036654  
 Lab Sample ID: S10HD01-018  
 Lab File ID: q5270926.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/kg	Q
319-84-6	alpha-BHC	400	U
319-85-7	beta-BHC	400	U
319-86-8	delta-BHC	400	U
58-89-9	gamma-BHC	400	U
76-44-8	Heptachlor	400	U
309-00-2	Aldrin	400	U
1024-57-3	Heptachlor epoxide	400	U
959-98-8	Endosulfan I	400	U
60-57-1	Dieldrin	810	U
72-55-9	4,4'-DDE	810	U
72-20-8	Endrin	810	U
33213-65-9	Endosulfan II	810	U
72-54-8	4,4'-DDD	810	U
1031-07-8	Endosulfan sulfate	810	U
50-29-3	4,4'-DDT	810	U
72-43-5	Methoxychlor	4000	U
7421-93-4	Endrin aldehyde	810	U
5103-71-9	alpha-Chlordane	400	U
53494-70-5	Endrin ketone	810	U
5103-74-2	gamma-Chlordane	400	U
8001-35-2	Toxaphene	50000	U

Comments:

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6/5-09

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0723

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.21 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036654  
 Lab Sample ID: S10HD01-019  
 Lab File ID: g5270927.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/kg	Q
319-84-6	alpha-BHC	380	U
319-85-7	beta-BHC	380	U
319-86-8	delta-BHC	380	U
58-89-9	gamma-BHC	380	U
76-44-8	Heptachlor	380	U
309-00-2	Aldrin	380	U
1024-57-3	Heptachlor epoxide	380	U
959-98-8	Endosulfan I	380	U
60-57-1	Dieldrin	770	U
72-55-9	4,4'-DDE	770	U
72-20-8	Endrin	770	U
33213-65-9	Endosulfan II	770	U
72-54-8	4,4'-DDD	770	U
1031-07-8	Endosulfan sulfate	770	U
50-29-3	4,4'-DDT	770	U
72-43-5	Methoxychlor	3800	U
7421-93-4	Endrin aldehyde	770	U
5103-71-9	alpha-Chlordane	380	U
53494-70-5	Endrin ketone	950	J <i>Amw</i>
5103-74-2	gamma-Chlordane	380	U
8001-35-2	Toxaphene	48000	U

Comments:

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6/5/09

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0724

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.22 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036654  
 Lab Sample ID: S10HD01-020  
 Lab File ID: g5270928.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		ug/kg	Q
319-84-6	alpha-BHC	360	U
319-85-7	beta-BHC	360	U
319-86-8	delta-BHC	360	U
58-89-9	gamma-BHC	360	U
76-44-8	Heptachlor	360	U
309-00-2	Aldrin	360	U
1024-57-3	Heptachlor epoxide	360	U
959-98-8	Endosulfan I	360	U
60-57-1	Dieldrin	740	U
72-55-9	4,4'-DDE	680	<del>U</del>
72-20-8	Endrin	710	J
33213-65-9	Endosulfan II	740	U
72-54-8	4,4'-DDD	740	U
1031-07-8	Endosulfan sulfate	740	U
50-29-3	4,4'-DDT	590	<del>U</del>
72-43-5	Methoxychlor	3600	U
7421-93-4	Endrin aldehyde	740	U
5103-71-9	alpha-Chlordane	360	U
53494-70-5	Endrin ketone	740	U
5103-74-2	gamma-Chlordane	360	U
8001-35-2	Toxaphene	45000	U

Comments:

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6-15-09

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0725

Lab Name: Pace Analytical Services, In

Contract: N/A

SDG No.: S10HD01

Run Sequence: R036654

Matrix: (SOIL/WATER) Material

Lab Sample ID: S10HD01-021

Sample wt/vol: 0.21 (g/mL) gm

Lab File ID: q5270913.d

% Moisture: 0.0 Decanted: (Y/N) N

Date Collected: 05/21/2009

Extraction: (Type) WASTE

Date Extracted: 05/26/2009

Concentrated Extract Volume: 20000.0(uL)

Date Analyzed: 05/27/2009

Injection Volume: 0.5 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		<u>ug/kg</u>	<u>Q</u>
319-84-6	alpha-BHC	380	U
319-85-7	beta-BHC	380	U
319-85-8	delta-BHC	380	U
58-89-9	gamma-BHC	380	U
76-44-8	Heptachlor	380	U
309-00-2	Aldrin	380	U
1024-57-3	Heptachlor epoxide	380	U
959-98-8	Endosulfan I	380	U
60-57-1	Dieldrin	770	U
72-55-9	4,4'-DDE	770	U
72-20-8	Endrin	770	U
33213-65-9	Endosulfan II	770	U
72-54-8	4,4'-DDD	770	U
1031-07-8	Endosulfan sulfate	770	U
50-29-3	4,4'-DDT	770	UJ
72-43-5	Methoxychlor	3800	U
7421-93-4	Endrin aldehyde	770	U
5103-71-9	alpha-Chlordane	380	U
53494-70-5	Endrin ketone	770	U
5103-74-2	gamma-Chlordane	380	U
8001-35-2	Toxaphene	48000	U

Comments:

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6/5/09

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0726

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.21 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036654  
 Lab Sample ID: S10HD01-022  
 Lab File ID: g5270917.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/27/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/kg	Q
319-84-6	alpha-BHC	380	U
319-85-7	beta-BHC	380	U
319-86-8	delta-BHC	380	U
58-89-9	gamma-BHC	380	U
76-44-8	Heptachlor	380	U
309-00-2	Aldrin	380	U
1024-57-3	Heptachlor epoxide	380	U
959-98-8	Endosulfan I	380	U
60-57-1	Dieldrin	770	U
72-55-9	4,4'-DDE	770	U
72-20-8	Endrin	770	U
33213-65-9	Endosulfan II	770	U
72-54-8	4,4'-DDD	770	U
1031-07-8	Endosulfan sulfate	770	U
50-29-3	4,4'-DDT	770	U
72-43-5	Methoxychlor	3800	U
7421-93-4	Endrin aldehyde	770	U
5103-71-9	alpha-Chlordane	380	U
53494-70-5	Endrin ketone	770	U
5103-74-2	gamma-Chlordane	380	U
8001-35-2	Toxaphene	48000	U

Comments:

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*6/15/09*

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0727

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.21 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036654  
 Lab Sample ID: S10HD01-023  
 Lab File ID: q5270925.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/kg	Q
319-84-6	alpha-BHC	380	U
319-85-7	beta-BHC	1000	J
319-86-8	delta-BHC	380	U
58-89-9	gamma-BHC	380	U
76-44-8	Heptachlor	380	U
309-00-2	Aldrin	380	U
1024-57-3	Heptachlor epoxide	590	J <del>mw</del>
959-98-8	Endosulfan I	380	U
60-57-1	Dieldrin	770	U
72-55-9	4,4'-DDE	690	J <del>mw</del>
72-20-8	Endrin	770	U
33213-65-9	Endosulfan II	740	J
72-54-8	4,4'-DDD	770	U
1031-07-8	Endosulfan sulfate	770	U
50-29-3	4,4'-DDT	1100	J
72-43-5	Methoxychlor	3800	U
7421-93-4	Endrin aldehyde	770	U
5103-71-9	alpha-Chlordane	380	U
53494-70-5	Endrin ketone	770	U
5103-74-2	gamma-Chlordane	380	U
8001-35-2	Toxaphene	48000	U

Comments:

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6/5-09

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 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0701

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Soil  
 Sample wt/vol: 15.09 (g/mL) gm  
 % Moisture: 11.0 Decanted: (Y/N) N  
 Extraction: (Type) PPEX  
 Concentrated Extract Volume: 5000.0 (uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036686  
 Lab Sample ID: S10HD01-001  
 Lab File ID: q5290928.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/29/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/kg	Q
12674-11-2	Aroclor-1016	19	U
11104-28-2	Aroclor-1221	19	U
11141-16-5	Aroclor-1232	19	U
53469-21-9	Aroclor-1242	19	U
12672-29-6	Aroclor-1248	19	U
11097-69-1	Aroclor-1254	19	U
11096-82-5	Aroclor-1260	19	U

Comments:

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6/5-09

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0704

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Soil  
 Sample wt/vol: 15.14 (g/mL) 9m  
 % Moisture: 17.0 Decanted: (Y/N) N  
 Extraction: (Type) PFEK  
 Concentrated Extract Volume: 5000.0 (uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036686  
 Lab Sample ID: S10HD01-004  
 Lab File ID: g6030915.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 06/03/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/kg	Q
12674-11-2	Aroclor-1016	20	U
11104-28-2	Aroclor-1221	20	U
11141-16-5	Aroclor-1232	20	U
53469-21-9	Aroclor-1242	20	U
12672-29-6	Aroclor-1248	20	U
11097-69-1	Aroclor-1254	<del>1400</del> 3,400	J
11096-82-5	Aroclor-1260	<del>310</del> 430	AV

Comments:

MW  
6-15-09

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0707

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 1.00 (g/mL) wipe  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) CONT  
 Concentrated Extract Volume: 25000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036656  
 Lab Sample ID: S10HD01-005  
 Lab File ID: g5270934.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/27/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/wi	Q
12674-11-2	Aroclor-1016	2.4	U
11104-28-2	Aroclor-1221	2.4	U
11141-16-5	Aroclor-1232	2.4	U
53469-21-9	Aroclor-1242	2.4	U
12672-29-6	Aroclor-1248	2.4	U
11097-69-1	Aroclor-1254	2.4	U
11096-82-5	Aroclor-1260	2.4	U

Comments:

*MW*  
*6/9/09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0708

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 1.00 (g/mL) wipe  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) CONT  
 Concentrated Extract Volume: 25000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036656  
 Lab Sample ID: S10HD01-006  
 Lab File ID: g5270935.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/27/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		ug/wi	Q
12674-11-2	Aroclor-1016	2.4	U
11104-28-2	Aroclor-1221	2.4	U
11141-16-5	Aroclor-1232	2.4	U
53469-21-9	Aroclor-1242	2.4	U
12672-29-6	Aroclor-1248	2.4	U
11097-69-1	Aroclor-1254	2.4	U
11096-82-5	Aroclor-1260	2.4	U

Comments:

*MW*  
*6/5/09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0709

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 1.00 (g/mL) wipe  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) CONT  
 Concentrated Extract Volume: 25000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036656  
 Lab Sample ID: S10HD01-007  
 Lab File ID: q5270936.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/27/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/wi	Q
12674-11-2	Aroclor-1016	2.4	U
11104-28-2	Aroclor-1221	2.4	U
11141-16-5	Aroclor-1232	2.4	U
53469-21-9	Aroclor-1242	2.4	U
12672-29-6	Aroclor-1248	2.4	U
11097-69-1	Aroclor-1254	2.4	U
11096-82-5	Aroclor-1260	2.4	U

Comments:

MW  
6-15-09

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0710

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 1.00 (g/mL) wipe  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) CONT  
 Concentrated Extract Volume: 25000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036656  
 Lab Sample ID: S10HD01-008  
 Lab File ID: g5270937.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/27/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		<u>ug/wi</u>	<u>Q</u>
12674-11-2	Aroclor-1016	2.4	U
11104-28-2	Aroclor-1221	2.4	U
11141-16-5	Aroclor-1232	2.4	U
53469-21-9	Aroclor-1242	2.4	U
12672-29-6	Aroclor-1248	2.4	U
11097-69-1	Aroclor-1254	2.4	U
11096-82-5	Aroclor-1260	2.4	U

Comments:

MN  
6/5/09

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0711

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 1.00 (g/mL) wipe  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) CONT  
 Concentrated Extract Volume: 25000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036656  
 Lab Sample ID: S10HD01-009  
 Lab File ID: q5270938.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/27/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/wi	Q
12674-11-2	Aroclor-1016	2.4	U
11104-28-2	Aroclor-1221	2.4	U
11141-16-5	Aroclor-1232	2.4	U
53469-21-9	Aroclor-1242	2.4	U
12672-29-6	Aroclor-1248	2.4	U
11097-69-1	Aroclor-1254	2.4	U
11096-82-5	Aroclor-1260	2.4	U

Comments:

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*6/5/09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0728

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 1.00 (g/mL) wipe  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) CONT  
 Concentrated Extract Volume: 25000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036656  
 Lab Sample ID: S10HD01-010  
 Lab File ID: q5270939.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/27/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		ug/wi	Q
12674-11-2	Aroclor-1016	2.4	U
11104-28-2	Aroclor-1221	2.4	U
11141-16-5	Aroclor-1232	2.4	U
53469-21-9	Aroclor-1242	2.4	U
12672-29-6	Aroclor-1248	2.4	U
11097-69-1	Aroclor-1254	2.4	U
11096-82-5	Aroclor-1260	2.4	U

Comments: -

*MW*  
*6/5/09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0729

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 1.00 (g/mL) wipe  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) CONT  
 Concentrated Extract Volume: 25000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036656  
 Lab Sample ID: S10HD01-011  
 Lab File ID: q5270940.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/27/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/wi	Q
12674-11-2	Aroclor-1016	2.4	U
11104-28-2	Aroclor-1221	2.4	U
11141-16-5	Aroclor-1232	2.4	U
53469-21-9	Aroclor-1242	2.4	U
12672-29-6	Aroclor-1248	2.4	U
11097-69-1	Aroclor-1254	2.4	U
11096-82-5	Aroclor-1260	2.4	U

Comments:

*MW*  
*6/5/09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0730

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 1.00 (g/mL) wipe  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) CONT  
 Concentrated Extract Volume: 25000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036656  
 Lab Sample ID: S10HD01-012  
 Lab File ID: g5270941.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/27/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		ug/wi	Q
12574-11-2	Aroclor-1016	2.4	U
11104-28-2	Aroclor-1221	2.4	U
11141-16-5	Aroclor-1232	2.4	U
53469-21-9	Aroclor-1242	2.4	U
12672-29-6	Aroclor-1248	2.4	U
11097-69-1	Aroclor-1254	2.4	U
11096-82-5	Aroclor-1260	2.4	U

Comments:

*MW*  
*6-15-09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0714

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.22 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-013  
 Lab File ID: g5270908.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/27/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12674-11-2	Aroclor-1015	4.7	U
11104-28-2	Aroclor-1221	4.7	U
11141-16-5	Aroclor-1232	4.7	U
53469-21-9	Aroclor-1242	4.7	U
12672-29-6	Aroclor-1248	4.7	U
11097-69-1	Aroclor-1254	4.7	U
11096-82-5	Aroclor-1260	4.7	U

Comments:

*MW*  
*6-15-09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0715

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.20 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-014  
 Lab File ID: g5270909.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/27/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12674-11-2	Aroclor-1016	5.2	U
11104-28-2	Aroclor-1221	5.2	U
11141-16-5	Aroclor-1232	5.2	U
53469-21-9	Aroclor-1242	5.2	U
12672-29-6	Aroclor-1248	5.2	U
11097-69-1	Aroclor-1254	5.2	U
11096-82-5	Aroclor-1260	5.2	U

Comments:

MW  
6-15-09

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0716

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.21 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-015  
 Lab File ID: q5270910.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/27/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12674-11-2	Aroclor-1016	5.0	U
11104-28-2	Aroclor-1221	5.0	U
11141-16-5	Aroclor-1232	5.0	U
53469-21-9	Aroclor-1242	5.0	U
12672-29-6	Aroclor-1248	5.0	U
11097-69-1	Aroclor-1254	5.0	U
11096-82-5	Aroclor-1260	5.0	U

Comments:

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1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0720

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.22 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-016  
 Lab File ID: g5270911.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/27/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12674-11-2	Aroclor-1016	4.7	U
11104-28-2	Aroclor-1221	4.7	U
11141-16-5	Aroclor-1232	4.7	U
53469-21-9	Aroclor-1242	4.7	U
12672-29-6	Aroclor-1248	4.7	U
11097-69-1	Aroclor-1254	4.7	U
11096-82-5	Aroclor-1260	4.7	U

Comments:

MN  
6/5-09

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0721

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.21 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-017  
 Lab File ID: q5270912.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/27/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12674-11-2	Aroclor-1016	5.0	U
11104-28-2	Aroclor-1221	5.0	U
11141-16-5	Aroclor-1232	5.0	U
53469-21-9	Aroclor-1242	5.0	U
12672-29-6	Aroclor-1248	5.0	U
11097-69-1	Aroclor-1254	5.0	U
11096-82-5	Aroclor-1260	5.0	U

Comments:

*MW*  
*6/5/09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0722

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.20 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-018  
 Lab File ID: q5270926.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12674-11-2	Aroclor-1016	5.2	U
11104-28-2	Aroclor-1221	5.2	U
11141-16-5	Aroclor-1232	5.2	U
53469-21-9	Aroclor-1242	5.2	U
12672-29-6	Aroclor-1248	5.2	U
11097-69-1	Aroclor-1254	5.2	U
11096-82-5	Aroclor-1260	5.2	U

Comments:

*MW*  
*6-15-09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0723

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.21 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-019  
 Lab File ID: q5270927.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12574-11-2	Aroclor-1016	5.0	U
11104-28-2	Aroclor-1221	5.0	U
11141-16-5	Aroclor-1232	5.0	U
53469-21-9	Aroclor-1242	5.0	U
12672-29-6	Aroclor-1248	5.0	U
11097-69-1	Aroclor-1254	5.0	U
11096-82-5	Aroclor-1260	5.0	U

Comments:

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*6/15/09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0724

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.21 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-020  
 Lab File ID: g5270928.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12674-11-2	Aroclor-1016	5.0	U
11104-28-2	Aroclor-1221	5.0	U
11141-16-5	Aroclor-1232	5.0	U
53469-21-9	Aroclor-1242	5.0	U
12672-29-6	Aroclor-1248	5.0	U
11097-69-1	Aroclor-1254	5.0	U
11096-82-5	Aroclor-1260	5.0	U

Comments:

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6/5-09

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0725

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.22 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-021  
 Lab File ID: q5270913.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/27/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12674-11-2	Aroclor-1016	4.7	U
11104-28-2	Aroclor-1221	4.7	U
11141-16-5	Aroclor-1232	4.7	U
53469-21-9	Aroclor-1242	4.7	U
12672-29-6	Aroclor-1248	4.7	U
11097-69-1	Aroclor-1254	4.7	U
11096-82-5	Aroclor-1260	4.7	U

Comments:

*MW*  
*6/5/09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0726

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.21 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-022  
 Lab File ID: q5270917.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/27/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12674-11-2	Aroclor-1016	5.0	U
11104-28-2	Aroclor-1221	5.0	U
11141-16-5	Aroclor-1232	5.0	U
53469-21-9	Aroclor-1242	5.0	U
12672-29-6	Aroclor-1248	5.0	U
11097-69-1	Aroclor-1254	5.0	U
11096-82-5	Aroclor-1260	5.0	U

Comments:

MW  
6-15-09

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0727

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.21 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-023  
 Lab File ID: q5270925.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/28/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12674-11-2	Aroclor-1016	5.0	U
11104-28-2	Aroclor-1221	5.0	U
11141-16-5	Aroclor-1232	5.0	U
53469-21-9	Aroclor-1242	64	
12672-29-6	Aroclor-1248	5.0	U
11097-69-1	Aroclor-1254	25	U
11096-82-5	Aroclor-1260	5.0	U

Comments:

*MW*  
*6-15-09*

1  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

09-05-0712

Lab Name: Pace Analytical Services, In  
 SDG No.: S10HD01  
 Matrix: (SOIL/WATER) Material  
 Sample wt/vol: 0.21 (g/mL) gm  
 % Moisture: 0.0 Decanted: (Y/N) N  
 Extraction: (Type) WASTE  
 Concentrated Extract Volume: 20000.0(uL)  
 Injection Volume: 0.5 (uL)  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Contract: N/A  
 Run Sequence: R036655  
 Lab Sample ID: S10HD01-028  
 Lab File ID: g5270914.d  
 Date Collected: 05/21/2009  
 Date Extracted: 05/26/2009  
 Date Analyzed: 05/27/2009  
 Dilution Factor: 1.0  
 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		mg/Kg	Q
12674-11-2	Aroclor-1016	5.0	U
11104-28-2	Aroclor-1221	5.0	U
11141-16-5	Aroclor-1232	5.0	U
53469-21-9	Aroclor-1242	5.0	U
12672-29-6	Aroclor-1248	5.0	U
11097-69-1	Aroclor-1254	5.0	U
11096-82-5	Aroclor-1260	5.0	U

Comments:

MW  
6-15-09



# ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: September 24, 2009

TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, Oregon

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, WA *MW*

SUBJ: **Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**

REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 2 solid samples collected from the Stubblefield Salvage site located in Walla Walla, Washington, has been completed. Polarized light microscopy (PLM) asbestos analyses were performed by Lab/Cor, Inc., Portland, Oregon.

The samples were numbered: 09050705 09050706

### Data Qualifications:

The samples were received at the laboratory on September 18, 2009, and were analyzed by September 21, 2009. No discrepancies were noted in the laboratory case narrative.

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

### Data Qualifiers and Definitions

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

*Asbestos and Environmental Analysis*

**Client:** Lab/Cor, Inc.

**Report Number:** 091834R01

**Job Number:** 091834

**Report Date:** 09/21/2009

**Project Name:** Unavailable at Login

**P.O. No:** n/a

**Project Number:**

**Project Notes:**

<b>Client Sample ID:</b> 092283-S1	<b>Sample ID:</b> S1	<b>Date Analyzed:</b> 09/21/2009	
<b>Client Sample Description:</b> 09050705		<b>Analyst:</b> Izumi Harris	
<b>Asbestos Mineral Fibers</b>	Percent of Sample:	Chrysotile	Amosite
		Crocidolite	
<b>Homogeneous</b>			<b>Percent Asbestos:</b>
cementitious material, gray	100 %	15 %	15 %
<b>Other Fibers</b>	Fibrous Glass	Mineral Cellulose Wool	Synthetic Other
			Matrix
			85 %

<b>Client Sample ID:</b> 092283-S2	<b>Sample ID:</b> S2	<b>Date Analyzed:</b> 09/21/2009	
<b>Client Sample Description:</b> 09050706		<b>Analyst:</b> Izumi Harris	
<b>Asbestos Mineral Fibers</b>	Percent of Sample:	Chrysotile	Amosite
		Crocidolite	
<b>Homogeneous</b>			<b>Percent Asbestos:</b>
cementitious material, gray	100 %	15 %	15 %
<b>Other Fibers</b>	Fibrous Glass	Mineral Cellulose Wool	Synthetic Other
			Matrix
			85 %

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP).  
 Testing method is per 40 CFR 763 Subpart F, Appendix A, PLM.

Layered samples are considered non-homogeneous. "Misc" is miscellaneous. "NAD" is No Asbestos Detected.  
 Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.  
 Small diameter fibers such as those found in vinyl floor tiles, may not be detected by PLM.  
 Asbestos detection interferences may result from material binders.  
 Qualitative and quantitative TEM analysis may be recommended for difficult samples.  
 Quantitative analysis by PLM point count or TEM is recommended for samples testing at < or = to 1% asbestos.  
 The following estimate of error for this method by visual estimation of asbestos percent are as follows:  
 1% asbestos: 0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.  
 This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

**Reviewed by:**

*Izumi Harris*  
 Izumi Harris  
 Analyst

*MW*  
*9-24-09*



# ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: October 14, 2009

TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Inorganic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**

REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 7 soil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington has been completed. Target Analyte List (TAL) metals analyses (EPA Methods 6010, 6020, and 7471) were performed by OnSite Environmental, Inc., Redmond, Washington.

The samples were numbered:

09090941	09090942	09090943	09090944	09090956
09090957	09090958			

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were maintained at 4°C ( $\pm 2^{\circ}\text{C}$ ). The samples were collected on September 9, 2009, and were analyzed by September 22, 2009, therefore meeting QC criteria of less than 6 months between collection, extraction, and analysis (28 days for mercury).

#### 2. **Initial and Continuing Calibration: Acceptable.**

A minimum of one calibration standard and a blank were analyzed at the beginning of the ICP analysis sequence and after every 10 samples. No results were greater than 110% of the highest calibration standard. All ICP recoveries were within the QC limits of 90% to 110%. All AA recoveries were within QC limits of 80% to 120%.

#### 3. **Blanks: Acceptable.**

A preparation blank was analyzed for each 20 samples or per matrix per concentration level. Blanks were analyzed after each Initial or Continuing Calibration Verification. No sample results were affected by blank results.

#### 4. **ICP Interference Check Sample: Acceptable.**

recycled paper

An Interference Check Sample (ICS) was analyzed at the beginning and end of each sequence or at least twice every 8 hours, whichever was more frequent. All ICS (solution AB) results were within QC limits of 80% - 120% recovery.

**5. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**6. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**7. Matrix Spike Analysis: Acceptable.**

A matrix spike analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. Spike and spike duplicate recoveries were within the QC limits.

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**9. Serial Dilution Analysis: Satisfactory.**

A serial dilution analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All serial dilution results were within QC limits except potassium. Associated positive results and sample quantitation limits were qualified as estimated quantities (J or UJ).

**10. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample detection limits but greater than the instrument detection limits or because quality control criteria limits were not met.
- R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 Page 1 of 2

Date Extracted: 9-14,17,18&21-09  
 Date Analyzed: 9-18&22-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-091-01  
 Client ID: 09050741

Analyte	Method	Result	PQL
Aluminum	6010B	10000 J	6.2
Antimony	6010B	ND	6.2 U
Arsenic	6010B	ND	12 U
Barium	6010B	110	3.1
Beryllium	6010B	ND	0.62 U
Cadmium	6010B	4.4	0.62
Calcium	6010B	7500	620
Chromium	6010B	36	0.62
Cobalt	6010B	9.6	0.62
Copper	6010B	4200	12
Iron	6010B	41000 J	62
Lead	6010B	610	6.2

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

*MLW*  
 10/14/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 Page 2 of 2

Date Extracted: 9-14,17,18&21-09  
 Date Analyzed: 9-18&22-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-091-01

Client ID: 09050741 *09090941*

Analyte	Method	Result	PQL
<del>Aluminum</del>	<del>6010B</del>	<del>10000</del>	<del>6.2 <i>MW</i></del>
Magnesium	6010B	5000	62
Manganese	6010B	430	1.2
Mercury	7471A	0.42	0.31
Nickel	6010B	34	3.1
Potassium	6010B	3000 <i>K</i>	62
Selenium	6010B	<i>NDM</i>	12 <i>U</i>
Silver	6010B	4.1	0.62
Sodium	6010B	490	62
Thallium	6020	<i>NDM</i>	6.2 <i>U</i>
Vanadium	6010B	88	0.62
Zinc	6010B	480	3.1

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881 *MW 09-18-09*

This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 Page 1 of 2

Date Extracted: 9-14,17,18&21-09  
 Date Analyzed: 9-18&22-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-091-02  
 Client ID: ~~09058742~~ *09090912*

Analyte	Method	Result	PQL
Aluminum	6010B	13000 <i>J</i>	60
Antimony	6010B	ND	6.0 <i>U</i>
Arsenic	6010B	ND <i>mm</i>	12 <i>U</i>
Barium	6010B	130	3.0
Beryllium	6010B	ND <i>mm</i>	0.60 <i>U</i>
Cadmium	6010B	0.69	0.60
Calcium	6010B	12000	600
Chromium	6010B	12	0.60
Cobalt	6010B	8.5	0.60
Copper	6010B	140	1.2
Iron	6010B	31000 <i>J</i>	60
Lead	6010B	160	6.0

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

*MW*  
*10/14/09*

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 Page 2 of 2

Date Extracted: 9-14,17,18&21-09  
 Date Analyzed: 9-18&22-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-091-02  
 Client ID: ~~09050742A~~

01000942

Analyte	Method	Result	PQL
Magnesium	6010B	6500	60
Manganese	6010B	470	1.2
Mercury	7471A	<del>ND</del>	0.30 U
Nickel	6010B	12	3.0
Potassium	6010B	4400 K	60
Selenium	6010B	<del>ND</del>	12 U
Silver	6010B	<del>ND</del>	0.60 U
Sodium	6010B	760	60
Thallium	6020	<del>ND</del>	6.0 U
Vanadium	6010B	93	0.60
Zinc	6010B	170	3.0

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

MMW 10/14/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 Page 1 of 2

Date Extracted: 9-14,17,18&21-09  
 Date Analyzed: 9-18&22-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-091-03

Client ID: ~~09050743~~  
*0909043*

Analyte	Method	Result	PQL
Aluminum	6010B	12000 <i>J</i>	57
Antimony	6010B	ND	5.7 <i>U</i>
Arsenic	6010B	ND <i>MW</i>	11 <i>U</i>
Barium	6010B	120	2.9
Beryllium	6010B	ND <i>MW</i>	0.57 <i>U</i>
Cadmium	6010B	0.90	0.57
Calcium	6010B	12000	570
Chromium	6010B	17	0.57
Cobalt	6010B	8.4	0.57
Copper	6010B	52	1.1
Iron	6010B	49000 <i>J</i>	57
Lead	6010B	100	5.7

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

*MW 10-14-09*

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 Page 2 of 2

Date Extracted: 9-14,17,18&21-09  
 Date Analyzed: 9-18&22-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-091-03

Client ID: ~~09050743~~ *09090943*

Analyte	Method	Result	PQL
Aluminum	6010B	12000	57
Magnesium	6010B	6500	57
Manganese	6010B	450	1.1
Mercury	7471A	ND <i>ND</i>	0.29 <i>U</i>
Nickel	6010B	12	2.9
Potassium	6010B	4600 <i>K</i>	57
Selenium	6010B	ND	11 <i>U</i>
Silver	6010B	ND <i>ND</i>	0.57 <i>U</i>
Sodium	6010B	450	57
Thallium	6020	ND <i>ND</i>	5.7 <i>U</i>
Vanadium	6010B	87	0.57
Zinc	6010B	330	2.9

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

*MW*  
*10/14/09*

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 Page 1 of 2

Date Extracted: 9-14,17,18&21-09  
 Date Analyzed: 9-18&22-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-091-04

Client ID: ~~09050744~~ *09090914*

Analyte	Method	Result	PQL
Aluminum	6010B	13000 <i>J</i>	61
Antimony	6010B	ND	6.1 <i>U</i>
Arsenic	6010B	ND <i>PM</i>	12 <i>U</i>
Barium	6010B	130	3.0
Beryllium	6010B	ND	0.61 <i>U</i>
Cadmium	6010B	ND <i>PM</i>	0.61 <i>U</i>
Calcium	6010B	9900	610
Chromium	6010B	9.8	0.61
Cobalt	6010B	8.1	0.61
Copper	6010B	28	1.2
Iron	6010B	29000 <i>J</i>	61
Lead	6010B	23	6.1

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881 *10/14/09*

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 Page 2 of 2

Date Extracted: 9-14,17,18&21-09  
 Date Analyzed: 9-18&22-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-091-04  
 Client ID: ~~0905074~~

*0909044*

Analyte	Method	Result	PQL
Magnesium	6010B	6600	61
Manganese	6010B	360	1.2
Mercury	7471A	<del>ND</del>	0.30 U
Nickel	6010B	8.4	3.0
Potassium	6010B	4600 K	61
Selenium	6010B	<del>ND</del>	12 U
Silver	6010B	<del>ND</del>	0.61 U
Sodium	6010B	530	61
Thallium	6020	<del>ND</del>	6.1 U
Vanadium	6010B	110	0.61
Zinc	6010B	140	3.0

*[Handwritten Signature]*

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 Page 1 of 2

Date Extracted: 9-14,17,18&21-09  
 Date Analyzed: 9-18&22-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-091-09  
 Client ID: ~~09050758~~

09090958

Analyte	Method	Result	PQL
Aluminum	6010B	12000 J	53
Antimony	6010B	32	5.3
Arsenic	6010B	ND MW	11 U
Barium	6010B	200	2.7
Beryllium	6010B	ND MW	0.53 U
Cadmium	6010B	24	0.53
Calcium	6010B	9200	530
Chromium	6010B	28	0.53
Cobalt	6010B	9.2	0.53
Copper	6010B	25000	110
Iron	6010B	36000 J	53
Lead	6010B	1200	5.3

OnSite Environmental, inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

MW  
10/4/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 Page 2 of 2

Date Extracted: 9-14,17,18&21-09  
 Date Analyzed: 9-18&22-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-091-09  
 Client ID: 09050758 MW

09090958

Analyte	Method	Result	PQL
Magnesium	6010B	5000	53
Manganese	6010B	460	1.1
Mercury	7471A	28	11
Nickel	6010B	95	2.7
Potassium	6010B	3900 K	53
Selenium	6010B	ND MW	11 U
Silver	6010B	4.5	0.53
Sodium	6010B	490	53
Thallium	6020	ND MW	5.3 U
Vanadium	6010B	86	0.53
Zinc	6010B	4500	27

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This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

MW  
 09/24/09



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720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: October 16, 2009  
TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR  
FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*  
SUBJ: **Inorganic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**  
REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 8 soil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington has been completed. Target Analyte List (TAL) metals analyses (EPA Methods 6010, 6020, and 7471) were performed by OnSite Environmental, Inc., Redmond, Washington.

The samples were numbered:

09090902	09090903	09090916	09090917	09090959
09090960	09090961	07090963		

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were maintained at 4°C ( $\pm 2^{\circ}\text{C}$ ). The samples were collected on September 10, 2009, and were analyzed by September 28, 2009, therefore meeting QC criteria of less than 6 months between collection, extraction, and analysis (28 days for mercury).

#### 2. **Initial and Continuing Calibration: Acceptable.**

A minimum of one calibration standard and a blank were analyzed at the beginning of the ICP analysis sequence and after every 10 samples. No results were greater than 110% of the highest calibration standard. All ICP recoveries were within the QC limits of 90% to 110%. All AA recoveries were within QC limits of 80% to 120%.

#### 3. **Blanks: Acceptable.**

A preparation blank was analyzed for each 20 samples or per matrix per concentration level. Blanks were analyzed after each Initial or Continuing Calibration Verification. No analytes were detected in the blanks that affected sample results.

#### 4. **ICP Interference Check Sample: Acceptable.**

An Interference Check Sample (ICS) was analyzed at the beginning of each sequence. All ICS (solution AB) results were within QC limits of 80% - 120% recovery.

**5. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**6. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**7. Matrix Spike Analysis: Satisfactory.**

A matrix spike analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. Spike and spike duplicate recoveries were within the QC limits except lead with one high and one low recovery, zinc and sodium with one high recovery each, and nickel with one low recovery. Positive sample results associated with the high recovery outliers were qualified as estimated quantities (J). Positive sample results and sample quantitation limits associated with the low recovery outliers were qualified as estimated quantities (J or UJ).

**8. Duplicate Analysis: Satisfactory.**

Laboratory duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits except nickel and lead; associated positive results and sample quantitation limits were qualified as estimated quantities (J or UJ).

**9. Serial Dilution Analysis: Acceptable.**

A serial dilution analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All serial dilution results were within QC limits.

**10. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample detection limits but greater than the instrument detection limits or because quality control criteria limits were not met.
- R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 page 1 of 2

Date Extracted: 9-18&22-09  
 Date Analyzed: 9-18,25,26&28-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-127-05

Client ID: ~~09050759~~<sup>11</sup>

09090959

Analyte	Method	Result	PQL
Aluminum	6010B	11000	13
Antimony	6010B	ND	6.6 U
Arsenic	6010B	ND	13 U
Barium	6010B	89	3.3
Beryllium	6010B	ND	0.66 U
Cadmium	6010B	ND	0.66 U
Calcium	6010B	7900	660
Chromium	6010B	8.2	0.66
Cobalt	6010B	9.7	0.66
Copper	6010B	27	1.3
Iron	6010B	25000	260
Lead	6010B	10 J	6.6

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 and is intended only for the use of the individual or company to whom it is addressed.

MW  
 10/1/09

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

**TOTAL METALS**  
 EPA 6010B/6020/7471A  
 page 2 of 2

Date Extracted: 9-18&22-09  
 Date Analyzed: 9-18,25,26&28-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-127-05

Client ID: ~~99050739-1110~~

09090959

Analyte	Method	Result	PQL
Magnesium	6010B	5000	66
Manganese	6010B	330	0.66
Mercury	7471A	ND/ML	0.33 U
Nickel	6010B	7.3 J	3.3
Potassium	6010B	2100	66
Selenium	6010B	ND	13 U
Silver	6010B	ND/ML	0.66 U
Sodium	6010B	1400 J	99
Thallium	6020	ND/ML	6.6 U
Vanadium	6010B	77	0.66
Zinc	6010B	46 J	3.3

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This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

Mu  
 10/15/09

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 page 1 of 2

Date Extracted: 9-18&22-09  
 Date Analyzed: 9-18,25,26&28-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-127-06

Client ID: ~~09050760~~ MW

09090960

Analyte	Method	Result	PQL
Aluminum	6010B	18000	130
Antimony	6010B	ND	6.6 ✓
Arsenic	6010B	ND	13 ✓
Barium	6010B	94	3.3
Beryllium	6010B	ND	0.66 ✓
Cadmium	6010B	ND	0.66 ✓
Calcium	6010B	6400	66
Chromium	6010B	12	0.66
Cobalt	6010B	20	0.66
Copper	6010B	19	1.3
Iron	6010B	60000	260
Lead	6010B	16 J	6.6

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Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 page 2 of 2

Date Extracted: 9-18&22-09  
 Date Analyzed: 9-18,25,26&28-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-127-06

Client ID: ~~090507601~~

09090960

Analyte	Method	Result	PQL
Magnesium	6010B	5000	66
Manganese	6010B	420	0.66
Mercury	7471A	ND <i>me</i>	0.33 <i>U</i>
Nickel	6010B	10 <i>J</i>	3.3
Potassium	6010B	2200	66
Selenium	6010B	ND	13 <i>U</i>
Silver	6010B	ND <i>me</i>	0.66 <i>U</i>
Sodium	6010B	950 <i>J</i>	99
Thallium	6020	ND <i>me</i>	6.6 <i>U</i>
Vanadium	6010B	160	0.66
Zinc	6010B	85 <i>J</i>	3.3

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*me*  
10/1/09

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 page 1 of 2

Date Extracted: 9-16&22-09  
 Date Analyzed: 9-18,25,26&28-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-127-07

Client ID: ~~09050761~~ MW  
 09090906

Analyte	Method	Result	PQL
Aluminum	6010B	19000	130
Antimony	6010B	ND	6.6
Arsenic	6010B	ND MW	13
Barium	6010B	120	8.3
Beryllium	6010B	ND	0.66
Cadmium	6010B	ND MW	0.66
Calcium	6010B	6200	66
Chromium	6010B	14	0.66
Cobalt	6010B	21	0.66
Copper	6010B	19	1.3
Iron	6010B	52000	260
Lead	6010B	7.6	6.6

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Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 page 2 of 2

Date Extracted: 9-18&22-09  
 Date Analyzed: 9-18,25,26&28-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-127-07

Client ID: ~~09050761~~ MW  
 09090606

Analyte	Method	Result	PQL
Magnesium	6010B	4300	66
Manganese	6010B	1000	6.6
Mercury	7471A	ND MW	0.33 V
Nickel	6010B	11 J	3.3
Potassium	6010B	1900	66
Selenium	6010B	ND	13 V
Silver	6010B	ND MW	0.66 V
Sodium	6010B	860 J	99
Thallium	6020	ND MW	6.6 V
Vanadium	6010B	150	0.66
Zinc	6010B	94 J	3.3

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MW  
 10/16/09

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 page 1 of 2

Date Extracted: 9-18&22-09  
 Date Analyzed: 9-18,25,26&28-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-127-08

Client ID: ~~09050763~~ MW  
 09090913

Analyte	Method	Result	PQL
Aluminum	6010B	15000	130
Antimony	6010B	ND	6.3 U
Arsenic	6010B	ND fme	13 U
Barium	6010B	120	3.1
Beryllium	6010B	ND	0.63 U
Cadmium	6010B	ND fme	0.63 U
Calcium	6010B	8600	630
Chromium	6010B	10	0.63
Cobalt	6010B	11	0.63
Copper	6010B	18	1.3
Iron	6010B	29000	250
Lead	6010B	280 J	6.3

*SMW 10-16-09*

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Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 page 2 of 2

Date Extracted: 9-18&22-09  
 Date Analyzed: 9-18,25,26&28-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-127-08

Client ID: ~~09050763-NW~~

09090903

Analyte	Method	Result	PQL
Magnesium	6010B	4600	63
Manganese	6010B	300	0.63
Mercury	7471A	ND	0.31 U
Nickel	6010B	8.2 J	3.1
Potassium	6010B	2700	63
Selenium	6010B	ND	13 U
Silver	6010B	ND	0.63 U
Sodium	6010B	1100 J	94
Thallium	6020	ND	6.3 U
Vanadium	6010B	110	0.63
Zinc	6010B	51 J	3.1

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MW 10/16/09



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Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: October 14, 2009

TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Inorganic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**

REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 9 soil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington has been completed. Target Analyte List (TAL) metals (EPA Methods 6010, 6020, and 7471) and Toxicity Characteristic Leaching Procedure (TCLP) metals (EPA Methods 1311, 6010, 6020, and 7471) analyses were performed by OnSite Environmental, Inc., Redmond, Washington.

The samples were numbered:

09090907	09090912	09090913	09090915	09090919
09090927	09090953	09090954	09090962	

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained at 4°C (± 2°C). The samples were collected on September 10, 2009, extracted on September 18, 2009, and were analyzed by September 28, 2009, therefore meeting QC criteria of less than 6 months between collection, extraction, and analysis (28 days for mercury).

#### 2. Initial and Continuing Calibration: Acceptable.

A minimum of one calibration standard and a blank were analyzed at the beginning of the ICP analysis sequence and after every 10 samples. No results were greater than 110% of the highest calibration standard. All ICP recoveries were within the QC limits of 90% to 110%. All AA recoveries were within QC limits of 80% to 120%.

#### 3. Blanks: Acceptable.

A preparation blank was analyzed for each 20 samples or per matrix per concentration level. Blanks were analyzed after each Initial or Continuing Calibration Verification. No positive blank results affected sample results.

#### 4. ICP Interference Check Sample: Acceptable.

An Interference Check Sample (ICS) was analyzed at the beginning of each sequence. All ICS (solution AB) results were within QC limits of 80% - 120%.

**5. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**6. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**7. Matrix Spike Analysis: Satisfactory.**

A matrix spike analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. Spike and spike duplicate recoveries were within the QC limits except lead with one high and one low recovery and nickel and sodium with one high recovery each. Lead positive results and sample quantitation limits were qualified as estimated quantities (J or UJ). Positive sample results associated with the high recovery outliers were qualified as estimated quantities (J).

**8. Duplicate Analysis: Satisfactory.**

Laboratory duplicate and spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits except nickel in the duplicate analysis; associated sample results were qualified as estimated quantities (J or UJ).

**9. Serial Dilution Analysis: Acceptable.**

A serial dilution analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All serial dilution results were within QC limits.

**10. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample detection limits but greater than the instrument detection limits or because quality control criteria limits were not met.
- R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Date of Report: September 29, 2009  
 Samples Submitted: September 11, 2009  
 Laboratory Reference: 0909-103  
 Project: 10HD-09/10/09-0005

**TOTAL METALS**  
**EPA 6010B/6020/7471A**  
 page 1 of 2

Date Extracted: 9-18&22-09  
 Date Analyzed: 9-18,25,26&28-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-103-12

Client ID: ~~09050762~~

*090909/02*

Analyte	Method	Result	PQL
Aluminum	6010B	12000	100
Antimony	6010B	12	5.2
Arsenic	6010B	<i>NDML</i>	10 <i>U</i>
Barium	6010B	160	2.6
Beryllium	6010B	<i>NDML</i>	0.52 <i>U</i>
Cadmium	6010B	11	0.52
Calcium	6010B	14000	520
Chromium	6010B	68	0.52
Cobalt	6010B	10	0.52
Copper	6010B	580	10
Iron	6010B	49000	210
Lead	6010B	750 <i>J</i>	5.2

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This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

*9/10/09*

Date of Report: September 29, 2009  
 Samples Submitted: September 11, 2009  
 Laboratory Reference: 0909-103  
 Project: 10HD-09/10/09-0005

**TOTAL METALS**  
 EPA 6010B/6020/7471A  
 page 2 of 2

Date Extracted: 9-18&22-09  
 Date Analyzed: 9-18,25,26&28-09

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID: 09-103-12

Client ID: ~~09050762~~ <sup>103</sup>  
 09090962

Analyte	Method	Result	PQL
Magnesium	6010B	5000	52
Manganese	6010B	420	0.52
Mercury	7471A	ND <sup>103</sup>	0.26 U
Nickel	6010B	57 J	2.6
Potassium	6010B	3200	52
Selenium	6010B	ND	10 U
Silver	6010B	ND <sup>103</sup>	0.52 U
Sodium	6010B	660 J	78
Thallium	6020	ND <sup>103</sup>	5.2 U
Vanadium	6010B	91	0.52
Zinc	6010B	670	2.6

*mw 10/14/09*

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720 Third Avenue, Suite 1700, Seattle, WA 98104

Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: October 14, 2009

TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**

REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 7 soil and 2 oil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington, has been completed. Analysis for Chlorinated Pesticides (EPA Method 8081A) and Polychlorinated Biphenyls (PCBs - EPA Method 8082) was performed by OnSite Environmental, Inc., Redmond, Washington.

The samples were numbered:

09090941	09090942	09090943	09090944	09090956
09090957	09090958	09090949	09090950	

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were maintained at 4°C ( $\pm$  2°C). The samples were collected on September 9, 2009, extracted by September 16, 2009, and were analyzed by September 22, 2009, therefore meeting QC criteria of less than 14 days between collection and soil sample extraction and less than 40 days between extraction and analysis.

#### 2. **Instrument Performance: Acceptable.**

The surrogate retention time percent difference between the initial calibration standards and the remaining standards and samples was  $\leq$  0.3% for capillary column analyses.

#### 3. **Initial and Continuing Calibration: Satisfactory.**

All initial calibration relative standard deviations (RSDs) were less than 15% on at least one column. All continuing calibration % differences (%D) were less than 15% and were within QC limits except Aroclor 1260 with high recoveries on 9-14-09 and 9-15-09 (associated positive results were qualified as estimated quantities [J]), endosulfan I with a low recovery associated with samples 09090942 and 09090944 (associated results were qualified as estimated quantities (J or UJ)), 4,4'-DDT with a low recovery associated with dilutions of samples 09090950 and 09090941 and samples 09090942, 09090943, and 09090958 (associated sample results were qualified as estimated quantities [J or UJ]), and delta-BHC, 4,4'-DDT, endrin aldehyde, and methoxychlor with high recoveries associated with samples 09090942, 09090943, and 09090958 (associated positive results were qualified as estimated [J]).

**4. Error Determination: Not Provided.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

**5. Blanks: Acceptable.**

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and for each concentration level, or every 20 samples, whichever is greater, and for each analytical system. No target analytes were detected in any blanks.

**6. Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**7. System Monitoring Compounds (SMCs): Satisfactory.**

All recoveries of the SMCs were within the established control limits except one low pesticide SMC recovery each in samples 09090943, 09090956, 09090957, and 09090958; associated positive results and samples quantitation limits were qualified as estimated quantities (J or UJ).

**8. Matrix Spikes: Acceptable.**

Recoveries of all spiked analytes were within the appropriate control limits.

**9. Duplicates: Acceptable.**

Relative Percent Differences (RPDs) of all spiked analytes were within the required control limits.

**10. Compound Identification: Satisfactory.**

Positive sample results with percent differences between the columns greater than 25% were qualified as estimated quantities (J).

**11. Target Compound Quantitation and Quantitation Limits: Acceptable.**

Sample results and quantitation limits were correctly calculated.

**12. Laboratory Contact**

No laboratory contact was required.

**13. Overall Assessment**

The overall usefulness of the data is based on the criteria outlined in the site-specific sampling plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

### Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
- R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Lab Traveler: 0909-091  
 Project: 10HD-09/09/09-0003

PCBs by EPA 8082

Matrix: Soil  
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	0909094 09050741					
Laboratory ID:	09-091-01					
Aroclor 1016	ND	0.062	EPA 8082	9-12-09	9-15-09	
Aroclor 1221	ND	0.062	EPA 8082	9-12-09	9-15-09	
Aroclor 1232	ND	0.062	EPA 8082	9-12-09	9-15-09	
Aroclor 1242	ND	0.062	EPA 8082	9-12-09	9-15-09	
Aroclor 1248	ND	0.062	EPA 8082	9-12-09	9-15-09	
Aroclor 1254	ND	0.062	EPA 8082	9-12-09	9-15-09	
Aroclor 1260	0.95	0.062	EPA 8082	9-12-09	9-15-09	
Surrogate:	Percent Recovery		Control Limits			
DCB	114		33-122			
Client ID:	0909094 09050742					
Laboratory ID:	09-091-02					
Aroclor 1016	ND	0.060	EPA 8082	9-12-09	9-14-09	
Aroclor 1221	ND	0.060	EPA 8082	9-12-09	9-14-09	
Aroclor 1232	ND	0.060	EPA 8082	9-12-09	9-14-09	
Aroclor 1242	ND	0.060	EPA 8082	9-12-09	9-14-09	
Aroclor 1248	ND	0.060	EPA 8082	9-12-09	9-14-09	
Aroclor 1254	0.080	0.060	EPA 8082	9-12-09	9-14-09	
Aroclor 1260	ND	0.060	EPA 8082	9-12-09	9-14-09	
Surrogate:	Percent Recovery		Control Limits			
DCB	78		33-122			
Client ID:	0909094 09050743					
Laboratory ID:	09-091-03					
Aroclor 1016	ND	0.057	EPA 8082	9-12-09	9-15-09	
Aroclor 1221	ND	0.057	EPA 8082	9-12-09	9-15-09	
Aroclor 1232	ND	0.057	EPA 8082	9-12-09	9-15-09	
Aroclor 1242	ND	0.057	EPA 8082	9-12-09	9-15-09	
Aroclor 1248	ND	0.057	EPA 8082	9-12-09	9-15-09	
Aroclor 1254	ND	0.57	EPA 8082	9-12-09	9-15-09	
Aroclor 1260	ND	0.57	EPA 8082	9-12-09	9-15-09	
Surrogate:	Percent Recovery		Control Limits			
DCB	101		33-122			

MW 10-14-09

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 25, 2009  
Samples Submitted: September 10, 2009  
Lab Traveler: 0909-091  
Project: 10HD-09/09/09-0003

PCBs by EPA 8082

Matrix: Soil  
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<p>09090944</p> <p>Client ID: <del>09050744</del> <i>AM</i></p> <p>Laboratory ID: 09-091-04</p>						
Aroclor 1016	ND	0.061	EPA 8082	9-12-09	9-14-09	
Aroclor 1221	ND	0.061	EPA 8082	9-12-09	9-14-09	
Aroclor 1232	ND	0.061	EPA 8082	9-12-09	9-14-09	
Aroclor 1242	ND	0.061	EPA 8082	9-12-09	9-14-09	
Aroclor 1248	ND	0.061	EPA 8082	9-12-09	9-14-09	
Aroclor 1254	ND	0.061	EPA 8082	9-12-09	9-14-09	
Aroclor 1260	ND	0.061	EPA 8082	9-12-09	9-14-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	85	33-122				
<p>09090956</p> <p>Client ID: <del>09050756</del> <i>AM</i></p> <p>Laboratory ID: 09-091-07</p>						
Aroclor 1016	ND	0.078	EPA 8082	9-12-09	9-14-09	
Aroclor 1221	ND	0.078	EPA 8082	9-12-09	9-14-09	
Aroclor 1232	ND	0.078	EPA 8082	9-12-09	9-14-09	
Aroclor 1242	ND	0.078	EPA 8082	9-12-09	9-14-09	
Aroclor 1248	ND	0.078	EPA 8082	9-12-09	9-14-09	
Aroclor 1254	ND	0.078	EPA 8082	9-12-09	9-14-09	
Aroclor 1260	0.12	0.078	EPA 8082	9-12-09	9-14-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	89	33-122				
<p>09090957</p> <p>Client ID: <del>09050757</del> <i>AM</i></p> <p>Laboratory ID: 09-091-08</p>						
Aroclor 1016	ND	0.081	EPA 8082	9-12-09	9-14-09	
Aroclor 1221	ND	0.081	EPA 8082	9-12-09	9-14-09	
Aroclor 1232	ND	0.081	EPA 8082	9-12-09	9-14-09	
Aroclor 1242	ND	0.081	EPA 8082	9-12-09	9-14-09	
Aroclor 1248	ND	0.081	EPA 8082	9-12-09	9-14-09	
Aroclor 1254	ND	0.081	EPA 8082	9-12-09	9-14-09	
Aroclor 1260	ND	0.081	EPA 8082	9-12-09	9-14-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	99	33-122				

*MW*  
*10/14/09*

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Lab Traveler: 0909-091  
 Project: 10HD-09/09/09-0003

PCBs by EPA 8082

Matrix: Soil  
 Units: mg/Kg (ppm)

09090909

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	-09050758					
Laboratory ID:	09-091-09					
Aroclor 1016	ND	0.27	EPA 8082	9-12-09	9-16-09	
Aroclor 1221	ND	0.27	EPA 8082	9-12-09	9-16-09	
Aroclor 1232	ND	0.27	EPA 8082	9-12-09	9-16-09	
Aroclor 1242	ND	0.27	EPA 8082	9-12-09	9-16-09	
Aroclor 1248	ND	0.27	EPA 8082	9-12-09	9-16-09	
Aroclor 1254	1.2	0.27	EPA 8082	9-12-09	9-16-09	
Aroclor 1260	ND	0.27	EPA 8082	9-12-09	9-16-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	120	33-122				

MW 10/14/09

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 25, 2009  
Samples Submitted: September 10, 2009  
Lab Traveler: 0909-091  
Project: 10HD-09/09/09-0003

PCBs by EPA 8082

Matrix: Oil  
Units: mg/Kg (ppm)

09090949

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	-09050749 MW					
Laboratory ID:	09-091-05					
Aroclor 1016	ND	0.40	EPA 8082	9-11-09	9-11-09	
Aroclor 1221	ND	0.40	EPA 8082	9-11-09	9-11-09	
Aroclor 1232	ND	0.40	EPA 8082	9-11-09	9-11-09	
Aroclor 1242	ND	0.40	EPA 8082	9-11-09	9-11-09	
Aroclor 1248	ND	0.40	EPA 8082	9-11-09	9-11-09	
Aroclor 1254	ND	0.40	EPA 8082	9-11-09	9-11-09	
Aroclor 1260	ND	0.40	EPA 8082	9-11-09	9-11-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	48	33-113				

09090950

Client ID:	09050750 MW					
Laboratory ID:	09-091-06					
Aroclor 1016	ND	0.39	EPA 8082	9-11-09	9-11-09	
Aroclor 1221	ND	0.39	EPA 8082	9-11-09	9-11-09	
Aroclor 1232	ND	0.39	EPA 8082	9-11-09	9-11-09	
Aroclor 1242	ND	0.39	EPA 8082	9-11-09	9-11-09	
Aroclor 1248	ND	0.39	EPA 8082	9-11-09	9-11-09	
Aroclor 1254	ND	0.39	EPA 8082	9-11-09	9-11-09	
Aroclor 1260	ND	0.39	EPA 8082	9-11-09	9-11-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	50	33-113				

MW  
9/24/09

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 25, 2009  
Samples Submitted: September 10, 2009  
Lab Traveler: 0909-091  
Project: 10HD-09/09/09-0003

**ORGANOCHLORINE  
PESTICIDES by EPA 8081A**

Matrix: Soil  
Units: ug/Kg (ppb)

09090914

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	090507414					
Laboratory ID:	09-091-01					
alpha-BHC	ND	310	EPA 8081	9-16-09	9-22-09	U1
gamma-BHC	ND	310	EPA 8081	9-16-09	9-22-09	U1
beta-BHC	ND	310	EPA 8081	9-16-09	9-22-09	U1
delta-BHC	ND	310	EPA 8081	9-16-09	9-22-09	U1
Heptachlor	ND	310	EPA 8081	9-16-09	9-22-09	U1
Aldrin	ND	310	EPA 8081	9-16-09	9-22-09	U1
Heptachlor Epoxide	ND	310	EPA 8081	9-16-09	9-22-09	U1
gamma-Chlordane	ND	620	EPA 8081	9-16-09	9-22-09	U1
alpha-Chlordane	ND	620	EPA 8081	9-16-09	9-22-09	U1
4,4'-DDE	ND	620	EPA 8081	9-16-09	9-22-09	U1
Endosulfan I	ND	310	EPA 8081	9-16-09	9-22-09	U1
Dieldrin	ND	620	EPA 8081	9-16-09	9-22-09	U1
Endrin	ND	620	EPA 8081	9-16-09	9-22-09	U1
4,4'-DDD	ND	620	EPA 8081	9-16-09	9-22-09	U1
Endosulfan II	ND	620	EPA 8081	9-16-09	9-22-09	U1
4,4'-DDT	ND	620	EPA 8081	9-16-09	9-22-09	U1
Endrin Aldehyde	ND	620	EPA 8081	9-16-09	9-22-09	U1
Methoxychlor	ND	620	EPA 8081	9-16-09	9-22-09	U1
Endsulfan Sulfate	ND	620	EPA 8081	9-16-09	9-22-09	U1
Endrin Ketone	ND	620	EPA 8081	9-16-09	9-22-09	U1
Toxaphene	ND	3100	EPA 8081	9-16-09	9-22-09	U1
Surrogate:	Percent Recovery	Control Limits				
TCMX	66	43-99				
DCB	56	44-104				

MW  
10/4/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Lab Traveler: 0909-091  
 Project: 10HD-09/09/09-0003

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Matrix: Soil  
 Units: .. ug/Kg (ppb)

09090942

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	-09050742 <i>AW</i>					
Laboratory ID:	09-091-02					
alpha-BHC	ND	6.0	EPA 8081	9-16-09	9-22-09	
gamma-BHC	ND	6.0	EPA 8081	9-16-09	9-22-09	
beta-BHC	ND	6.0	EPA 8081	9-16-09	9-22-09	
delta-BHC	ND	6.0	EPA 8081	9-16-09	9-22-09	
Heptachlor	ND	6.0	EPA 8081	9-16-09	9-22-09	
Aldrin	ND	6.0	EPA 8081	9-16-09	9-22-09	
Heptachlor Epoxide	ND	6.0	EPA 8081	9-16-09	9-22-09	
gamma-Chlordane	ND	12	EPA 8081	9-16-09	9-22-09	
alpha-Chlordane	ND	12	EPA 8081	9-16-09	9-22-09	
4,4'-DDE	15	12	EPA 8081	9-16-09	9-22-09	
Endosulfan I	ND	6.0	EPA 8081	9-16-09	9-22-09	
Dieldrin	ND	12	EPA 8081	9-16-09	9-22-09	
Endrin	ND	12	EPA 8081	9-16-09	9-22-09	
4,4'-DDD	ND	12	EPA 8081	9-16-09	9-22-09	
Endosulfan II	ND	12	EPA 8081	9-16-09	9-22-09	
4,4'-DDT	ND	12	EPA 8081	9-16-09	9-22-09	
Endrin Aldehyde	ND	12	EPA 8081	9-16-09	9-22-09	
Methoxychlor	ND	12	EPA 8081	9-16-09	9-22-09	
Endsulfan Sulfate	ND	12	EPA 8081	9-16-09	9-22-09	
Endrin Ketone	ND	12	EPA 8081	9-16-09	9-22-09	
Toxaphene	ND	60	EPA 8081	9-16-09	9-22-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
TCMX	67	43-99				
DCB	46	44-104				

MW  
10/4/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Lab Traveler: 0909-091  
 Project: 10HD-09/09/09-0003

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Matrix: Soil  
 Units: ug/Kg (ppb)

09090913

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09050743					
Laboratory ID:	09-091-03					
alpha-BHC	ND	5.7	EPA 8081	9-16-09	9-22-09	
gamma-BHC	ND	5.7	EPA 8081	9-16-09	9-22-09	
beta-BHC	ND	5.7	EPA 8081	9-16-09	9-22-09	
delta-BHC	ND	5.7	EPA 8081	9-16-09	9-22-09	
Heptachlor	ND	5.7	EPA 8081	9-16-09	9-22-09	
Aldrin	ND	5.7	EPA 8081	9-16-09	9-22-09	
Heptachlor Epoxide	ND	5.7	EPA 8081	9-16-09	9-22-09	
gamma-Chlordane	ND	11	EPA 8081	9-16-09	9-22-09	
alpha-Chlordane	ND	11	EPA 8081	9-16-09	9-22-09	
4,4'-DDE	ND	11	EPA 8081	9-16-09	9-22-09	
Endosulfan I	ND	5.7	EPA 8081	9-16-09	9-22-09	
Dieldrin	ND	11	EPA 8081	9-16-09	9-22-09	
Endrin	ND	11	EPA 8081	9-16-09	9-22-09	
4,4'-DDD	ND	11	EPA 8081	9-16-09	9-22-09	
Endosulfan II	ND	11	EPA 8081	9-16-09	9-22-09	
4,4'-DDT	ND	11	EPA 8081	9-16-09	9-22-09	
Endrin Aldehyde	ND	11	EPA 8081	9-16-09	9-22-09	
Methoxychlor	ND	11	EPA 8081	9-16-09	9-22-09	
Endosulfan Sulfate	ND	11	EPA 8081	9-16-09	9-22-09	
Endrin Ketone	ND	11	EPA 8081	9-16-09	9-22-09	
Toxaphene	ND	57	EPA 8081	9-16-09	9-22-09	
Surrogate:	Percent Recovery	Control Limits				
TCMX	48	43-99				
DCB	39	44-104				

mu

mu  
10/14/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Lab Traveler: 0909-091  
 Project: 10HD-09/09/09-0003

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Matrix: Soil  
 Units: ug/Kg (ppb)

09090944

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09050744					
Laboratory ID:	09-091-04					
alpha-BHC	ND	6.1	EPA 8081	9-16-09	9-17-09	
gamma-BHC	ND	6.1	EPA 8081	9-16-09	9-17-09	
beta-BHC	ND	6.1	EPA 8081	9-16-09	9-17-09	
delta-BHC	ND	6.1	EPA 8081	9-16-09	9-17-09	
Heptachlor	ND	6.1	EPA 8081	9-16-09	9-17-09	
Aldrin	ND	6.1	EPA 8081	9-16-09	9-17-09	
Heptachlor Epoxide	ND	6.1	EPA 8081	9-16-09	9-17-09	
gamma-Chlordane	ND	12	EPA 8081	9-16-09	9-17-09	
alpha-Chlordane	ND	12	EPA 8081	9-16-09	9-17-09	
4,4'-DDE	ND	12	EPA 8081	9-16-09	9-17-09	
Endosulfan I	ND	6.1	EPA 8081	9-16-09	9-17-09	
Dieldrin	ND	12	EPA 8081	9-16-09	9-17-09	
Endrin	ND	12	EPA 8081	9-16-09	9-17-09	
4,4'-DDD	ND	12	EPA 8081	9-16-09	9-17-09	
Endosulfan II	ND	12	EPA 8081	9-16-09	9-17-09	
4,4'-DDT	ND	12	EPA 8081	9-16-09	9-17-09	
Endrin Aldehyde	ND	12	EPA 8081	9-16-09	9-17-09	
Methoxychlor	ND	12	EPA 8081	9-16-09	9-17-09	
Endsulfan Sulfate	ND	12	EPA 8081	9-16-09	9-17-09	
Endrin Ketone	ND	12	EPA 8081	9-16-09	9-17-09	
Toxaphene	ND	61	EPA 8081	9-16-09	9-17-09	
Surrogate:	Percent Recovery	Control Limits				
TCMX	69	43-99				
DCB	61	44-104				

mw  
10/4/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Lab Traveler: 0909-091  
 Project: 10HD-09/09/09-0003

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Matrix: Soil  
 Units: ug/Kg (ppb)

09090956

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	-09050756M					
Laboratory ID:	09-091-07					
alpha-BHC	ND	7.8	EPA 8081	9-16-09	9-22-09	
gamma-BHC	ND	7.8	EPA 8081	9-16-09	9-22-09	
beta-BHC	ND	7.8	EPA 8081	9-16-09	9-22-09	
delta-BHC	ND	7.8	EPA 8081	9-16-09	9-22-09	
Heptachlor	ND	7.8	EPA 8081	9-16-09	9-22-09	
Aldrin	ND	7.8	EPA 8081	9-16-09	9-22-09	
Heptachlor Epoxide	ND	7.8	EPA 8081	9-16-09	9-22-09	
gamma-Chlordane	ND	16	EPA 8081	9-16-09	9-22-09	
alpha-Chlordane	ND	16	EPA 8081	9-16-09	9-22-09	
4,4'-DDE	45	16	EPA 8081	9-16-09	9-22-09	
Endosulfan I	ND	7.8	EPA 8081	9-16-09	9-22-09	
Dieldrin	ND	16	EPA 8081	9-16-09	9-22-09	
Endrin	ND	16	EPA 8081	9-16-09	9-22-09	
4,4'-DDD	ND	16	EPA 8081	9-16-09	9-22-09	
Endosulfan II	ND	16	EPA 8081	9-16-09	9-22-09	
4,4'-DDT	ND	16	EPA 8081	9-16-09	9-22-09	
Endrin Aldehyde	ND	16	EPA 8081	9-16-09	9-22-09	
Methoxychlor	ND	16	EPA 8081	9-16-09	9-22-09	
Endsulfan Sulfate	ND	16	EPA 8081	9-16-09	9-22-09	
Endrin Ketone	ND	16	EPA 8081	9-16-09	9-22-09	
Toxaphene	ND	78	EPA 8081	9-16-09	9-22-09	
Surrogate:	Percent Recovery	Control Limits				
TCMX	60	43-99				
DCB	42	44-104				

QMW

MW  
10-14-09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Lab Traveler: 0909-091  
 Project: 10HD-09/09/09-0003

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Matrix: Soil  
 Units: ug/Kg (ppb)

09090957

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09050757 Mw					
Laboratory ID:	09-091-08					
alpha-BHC	ND	8.1	EPA 8081	9-16-09	9-22-09	
gamma-BHC	ND	8.1	EPA 8081	9-16-09	9-22-09	
beta-BHC	ND	8.1	EPA 8081	9-16-09	9-22-09	
delta-BHC	ND	8.1	EPA 8081	9-16-09	9-22-09	
Heptachlor	ND	8.1	EPA 8081	9-16-09	9-22-09	
Aldrin	ND	8.1	EPA 8081	9-16-09	9-22-09	
Heptachlor Epoxide	ND	8.1	EPA 8081	9-16-09	9-22-09	
gamma-Chlordane	ND	16	EPA 8081	9-16-09	9-22-09	
alpha-Chlordane	ND	16	EPA 8081	9-16-09	9-22-09	
4,4'-DDE	ND	16	EPA 8081	9-16-09	9-22-09	
Endosulfan I	ND	8.1	EPA 8081	9-16-09	9-22-09	
Dieldrin	ND	16	EPA 8081	9-16-09	9-22-09	
Endrin	ND	16	EPA 8081	9-16-09	9-22-09	
4,4'-DDD	ND	16	EPA 8081	9-16-09	9-22-09	
Endosulfan II	ND	16	EPA 8081	9-16-09	9-22-09	
4,4'-DDT	ND	16	EPA 8081	9-16-09	9-22-09	
Endrin Aldehyde	ND	16	EPA 8081	9-16-09	9-22-09	
Methoxychlor	ND	16	EPA 8081	9-16-09	9-22-09	
Endsulfan Sulfate	ND	16	EPA 8081	9-16-09	9-22-09	
Endrin Ketone	ND	16	EPA 8081	9-16-09	9-22-09	
Toxaphene	ND	81	EPA 8081	9-16-09	9-22-09	
Surrogate:	Percent Recovery	Control Limits				
TCMX	.59	43-99				
DCB	40	44-104				

pmc

Mw  
10/14/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Lab Traveler: 0909-091  
 Project: 10HD-09/09/09-0003

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Matrix: Soil  
 Units: ug/Kg (ppb)

09090958

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09050738/n					
Laboratory ID:	09-091-09					
alpha-BHC	ND	110	EPA 8081	9-16-09	9-22-09	U1
gamma-BHC	ND	110	EPA 8081	9-16-09	9-22-09	U1
beta-BHC	ND	110	EPA 8081	9-16-09	9-22-09	U1
delta-BHC	ND	110	EPA 8081	9-16-09	9-22-09	U1
Heptachlor	ND	110	EPA 8081	9-16-09	9-22-09	U1
Aldrin	ND	110	EPA 8081	9-16-09	9-22-09	U1
Heptachlor Epoxide	ND	110	EPA 8081	9-16-09	9-22-09	U1
gamma-Chlordane	ND	210	EPA 8081	9-16-09	9-22-09	U1
alpha-Chlordane	ND	210	EPA 8081	9-16-09	9-22-09	U1
4,4'-DDE	ND	210	EPA 8081	9-16-09	9-22-09	U1
Endosulfan I	ND	110	EPA 8081	9-16-09	9-22-09	U1
Dieldrin	ND	210	EPA 8081	9-16-09	9-22-09	U1
Endrin	ND	210	EPA 8081	9-16-09	9-22-09	U1
4,4'-DDD	ND	210	EPA 8081	9-16-09	9-22-09	U1
Endosulfan II	ND	210	EPA 8081	9-16-09	9-22-09	U1
4,4'-DDT	ND	210	EPA 8081	9-16-09	9-22-09	U1
Endrin Aldehyde	ND	210	EPA 8081	9-16-09	9-22-09	U1
Methoxychlor	ND	210	EPA 8081	9-16-09	9-22-09	U1
Endsulfan Sulfate	ND	210	EPA 8081	9-16-09	9-22-09	U1
Endrin Ketone	ND	210	EPA 8081	9-16-09	9-22-09	U1
Toxaphene	ND	1100	EPA 8081	9-16-09	9-22-09	U1
Surrogate:	Percent Recovery		Control Limits			
TCMX	50		43-99			
DCB	41		44-104			

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10/4/09

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.



# ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: October 16, 2009  
TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR  
FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*  
SUBJ: **Organic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**  
REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 8 soil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington, has been completed. Analysis for Chlorinated Pesticides (EPA Method 8081A) and Polychlorinated Biphenyls (PCBs - EPA Method 8082) was performed by OnSite Environmental, Inc., Redmond, Washington.

The samples were numbered:				
09090902	09090903	09090916	09090917	09090959
09090960	09090961	07090963		

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

1. **Sample Holding Times: Acceptable.**

The samples were maintained at 4°C ( $\pm 2^\circ\text{C}$ ). The samples were collected on September 10, 2009, extracted by September 17, 2009, and were analyzed by September 23, 2009, therefore meeting QC criteria of less than 14 days between collection and soil sample extraction and less than 40 days between extraction and analysis.

2. **Instrument Performance: Acceptable.**

The surrogate retention time percent difference between the initial calibration standards and the remaining standards and samples was  $\leq 0.3\%$  for capillary column analyses.

3. **Initial and Continuing Calibration: Satisfactory.**

All initial calibration relative standard deviations (RSDs) were less than 15% on at least one column. All continuing calibration % differences (% D) were less than 15% and were within QC limits except endosulfan I in the September 17, 2009 calibration and delta-BHC, aldrin, heptachlor epoxide, gamma-chlordane, alpha-chlordane, 4,4'-DDE, endosulfan I, dieldrin, endrin, 4,4'-DDD, endosulfan II, 4,4'-DDT, endrin aldehyde, methoxychlor, endosulfan sulfate, and endrin ketone in the September 23, 2009 calibration, all with low recoveries. Associated positive results and sample quantitation limits were qualified as estimated [J or UJ].

4. **Error Determination: Not Provided.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

**5. Blanks: Acceptable.**

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and for each concentration level, or every 20 samples, whichever is greater, and for each analytical system. No target analytes were detected in any blanks.

**6. Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**7. System Monitoring Compounds (SMCs): Acceptable.**

All recoveries of the SMCs were within the established control limits.

**8. Matrix Spikes: Acceptable.**

Recoveries of all spiked analytes were within the appropriate control limits.

**9. Duplicates: Acceptable.**

Relative Percent Differences (RPDs) of all spiked analytes were within the required control limits.

**10. Compound Identification: Satisfactory.**

Positive sample results with percent differences between the columns greater than 25% were qualified as estimated quantities (J).

**11. Target Compound Quantitation and Quantitation Limits: Acceptable.**

Sample results and quantitation limits were correctly calculated.

**12. Laboratory Contact**

No laboratory contact was required.

**13. Overall Assessment**

The overall usefulness of the data is based on the criteria outlined in the site-specific sampling plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

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

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Lab Traveler: 0909-127  
 Project: 10HD-09/10/09-0007

PCBs by EPA 8082

Matrix: Soil  
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	<del>9050717</del>					
Laboratory ID:	09-127-04					
Aroclor 1016	ND	0.056	EPA 8082	9-17-09	9-18-09	
Aroclor 1221	ND	0.056	EPA 8082	9-17-09	9-18-09	
Aroclor 1232	ND	0.056	EPA 8082	9-17-09	9-18-09	
Aroclor 1242	ND	0.056	EPA 8082	9-17-09	9-18-09	
Aroclor 1248	ND	0.056	EPA 8082	9-17-09	9-18-09	
Aroclor 1254	ND	0.056	EPA 8082	9-17-09	9-18-09	
Aroclor 1260	ND	0.056	EPA 8082	9-17-09	9-18-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	89	33-122				
Client ID:	<del>9050759</del>					
Laboratory ID:	09-127-05					
Aroclor 1016	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1221	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1232	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1242	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1248	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1254	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1260	ND	0.066	EPA 8082	9-17-09	9-18-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	106	33-122				
Client ID:	<del>9050760</del>					
Laboratory ID:	09-127-06					
Aroclor 1016	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1221	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1232	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1242	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1248	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1254	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1260	ND	0.066	EPA 8082	9-17-09	9-18-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	88	33-122				

*MW*  
 10/16/09

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Lab Traveler: 0909-127  
 Project: 10HD-09/10/09-0007

PCBs by EPA 8082

Matrix: Soil  
 Units: mg/Kg (ppm)

09090961

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	<del>9050763</del>					
Laboratory ID:	09-127-07					
Aroclor 1016	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1221	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1232	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1242	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1248	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1254	ND	0.066	EPA 8082	9-17-09	9-18-09	
Aroclor 1260	ND	0.066	EPA 8082	9-17-09	9-18-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	102	33-122				

09090963

Client ID:	<del>9050763</del>					
Laboratory ID:	09-127-08					
Aroclor 1016	ND	0.063	EPA 8082	9-17-09	9-18-09	
Aroclor 1221	ND	0.063	EPA 8082	9-17-09	9-18-09	
Aroclor 1232	ND	0.063	EPA 8082	9-17-09	9-18-09	
Aroclor 1242	ND	0.063	EPA 8082	9-17-09	9-18-09	
Aroclor 1248	ND	0.063	EPA 8082	9-17-09	9-18-09	
Aroclor 1254	ND	0.063	EPA 8082	9-17-09	9-18-09	
Aroclor 1260	ND	0.063	EPA 8082	9-17-09	9-18-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	98	33-122				

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*MW*  
 10-16-09

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Lab Traveler: 0909-127  
 Project: 10HD-09/10/09-0007

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Matrix: Soil  
 Units: ug/Kg.(ppb)

09090959

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	<del>09050759</del>					
Laboratory ID:	09-127-05					
alpha-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
gamma-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
beta-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
delta-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
Heptachlor	ND	6.6	EPA 8081	9-16-09	9-17-09	
Aldrin	ND	6.6	EPA 8081	9-16-09	9-17-09	
Heptachlor Epoxide	ND	6.6	EPA 8081	9-16-09	9-17-09	
gamma-Chlordane	ND	13	EPA 8081	9-16-09	9-17-09	
alpha-Chlordane	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDE	ND	13	EPA 8081	9-16-09	9-17-09	
Endosulfan I	ND	6.6	EPA 8081	9-16-09	9-17-09	
Dieldrin	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDD	ND	13	EPA 8081	9-16-09	9-17-09	
Endosulfan II	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDT	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin Aldehyde	ND	13	EPA 8081	9-16-09	9-17-09	
Methoxychlor	ND	13	EPA 8081	9-16-09	9-17-09	
Endsulfan Sulfate	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin Ketone	ND	13	EPA 8081	9-16-09	9-17-09	
Toxaphene	ND	66	EPA 8081	9-16-09	9-17-09	
Surrogate:	Percent Recovery	Control Limits				
TCMX	58	43-99				
DCB	60	44-104				

*Handwritten signature and date: 10-16-09*

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Lab Traveler: 0909-127  
 Project: 10HD-09/10/09-0007

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Matrix: Soil  
 Units: ug/Kg (ppb)

09090960

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	<del>090507001</del>					
Laboratory ID:	09-127-06					
alpha-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
gamma-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
beta-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
delta-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
Heptachlor	ND	6.6	EPA 8081	9-16-09	9-17-09	
Aldrin	ND	6.6	EPA 8081	9-16-09	9-17-09	
Heptachlor Epoxide	ND	6.6	EPA 8081	9-16-09	9-17-09	
gamma-Chlordane	ND	13	EPA 8081	9-16-09	9-17-09	
alpha-Chlordane	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDE	ND	13	EPA 8081	9-16-09	9-17-09	
Endosulfan I	ND	6.6	EPA 8081	9-16-09	9-17-09	
Dieldrin	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDD	ND	13	EPA 8081	9-16-09	9-17-09	
Endosulfan II	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDT	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin Aldehyde	ND	13	EPA 8081	9-16-09	9-17-09	
Methoxychlor	ND	13	EPA 8081	9-16-09	9-17-09	
Endsulfan Sulfate	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin Ketone	ND	13	EPA 8081	9-16-09	9-17-09	
Toxaphene	ND <sup>mw</sup>	66	EPA 8081	9-16-09	9-17-09	
Surrogate:	Percent Recovery	Control Limits				
TCMX	67	43-99				
DCB	65	44-104				

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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*MW*  
 10/16/09

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Lab Traveler: 0909-127  
 Project: 10HD-09/10/09-0007

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Matrix: Soil  
 Units: ug/Kg (ppb)

*09090961*

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	<i>09050761</i>					
Laboratory ID:	09-127-07					
alpha-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
gamma-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
beta-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
delta-BHC	ND	6.6	EPA 8081	9-16-09	9-17-09	
Heptachlor	ND	6.6	EPA 8081	9-16-09	9-17-09	
Aldrin	ND	6.6	EPA 8081	9-16-09	9-17-09	
Heptachlor Epoxide	ND	6.6	EPA 8081	9-16-09	9-17-09	
gamma-Chlordane	ND	13	EPA 8081	9-16-09	9-17-09	
alpha-Chlordane	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDE	ND	13	EPA 8081	9-16-09	9-17-09	
Endosulfan I	ND	6.6	EPA 8081	9-16-09	9-17-09	
Dieldrin	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDD	ND	13	EPA 8081	9-16-09	9-17-09	
Endosulfan II	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDT	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin Aldehyde	ND	13	EPA 8081	9-16-09	9-17-09	
Methoxychlor	ND	13	EPA 8081	9-16-09	9-17-09	
Endsulfan Sulfate	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin Ketone	ND	13	EPA 8081	9-16-09	9-17-09	
Toxaphene	ND	66	EPA 8081	9-16-09	9-17-09	
Surrogate:	Percent Recovery	Control Limits				
TCMX	64	43-99				
DCB	60	44-104				

*Mu*  
*10/16/09*

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Lab Traveler: 0909-127  
 Project: 10HD-09/10/09-0007

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Matrix: Soil  
 Units: ug/Kg (ppb)

09090903

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	-09090903					
Laboratory ID:	09-127-08					
alpha-BHC	ND	6.3	EPA 8081	9-16-09	9-17-09	
gamma-BHC	ND	6.3	EPA 8081	9-16-09	9-17-09	
beta-BHC	ND	6.3	EPA 8081	9-16-09	9-17-09	
delta-BHC	ND	6.3	EPA 8081	9-16-09	9-17-09	
Heptachlor	ND	6.3	EPA 8081	9-16-09	9-17-09	
Aldrin	ND	6.3	EPA 8081	9-16-09	9-17-09	
Heptachlor Epoxide	ND	6.3	EPA 8081	9-16-09	9-17-09	
gamma-Chlordane	ND	13	EPA 8081	9-16-09	9-17-09	
alpha-Chlordane	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDE	ND	13	EPA 8081	9-16-09	9-17-09	
Endosulfan I	ND	6.3	EPA 8081	9-16-09	9-17-09	
Dieldrin	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDD	ND	13	EPA 8081	9-16-09	9-17-09	
Endosulfan II	ND	13	EPA 8081	9-16-09	9-17-09	
4,4'-DDT	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin Aldehyde	ND	13	EPA 8081	9-16-09	9-17-09	
Methoxychlor	ND	13	EPA 8081	9-16-09	9-17-09	
Endsulfan Sulfate	ND	13	EPA 8081	9-16-09	9-17-09	
Endrin Ketone	ND	13	EPA 8081	9-16-09	9-17-09	
Toxaphene	ND	63	EPA 8081	9-16-09	9-17-09	
Surrogate:	Percent Recovery	Control Limits				
TCMX	59	43-99				
DCB	54	44-104				

MW  
 10/16/09

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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# ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: October 14, 2009

TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**

REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 11 soil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington, has been completed. Analysis for Chlorinated Pesticides (EPA Method 8081A), Polychlorinated Biphenyls (PCBs - EPA Method 8082), and Toxicity Characteristic Leaching Procedure (TCLP) pesticides (EPA Methods 1311 and 8081) was performed by OnSite Environmental, Inc., Redmond, Washington.

The samples were numbered:

09090907	09090908	09090909	09090912	09090913
09090915	09090919	09090927	09090953	09090954
09090962				

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were maintained at 4°C ( $\pm 2^{\circ}\text{C}$ ). The samples were collected on September 10, 2009; extracted by September 18, 2009, and were analyzed by September 23, 2009, therefore meeting QC criteria of less than 14 days between collection and soil sample extraction and less than 40 days between extraction and analysis.

#### 2. **Instrument Performance: Acceptable.**

The surrogate retention time percent difference between the initial calibration standards and the remaining standards and samples was  $\leq 0.3\%$  for capillary column analyses.

#### 3. **Initial and Continuing Calibration: Satisfactory.**

All initial calibration relative standard deviations (RSDs) were less than 15% on at least one column. All continuing calibration % differences (% D) were less than 15% on at least one column and were within QC limits except 4,4'-DDT with a low response on 9-22-09, endrin with a high response on 9-22-09 and 9-25-09 (associated positive results were qualified as estimated quantities [J]), low delta-BHC, aldrin, heptachlor epoxide, gamma-chlordane, alpha-chlordane, 4,4'-DDE, endosulfan I, dieldrin, endrin, 4,4'-DDD, endosulfan II, 4,4'-DDT, endrin aldehyde, methoxychlor, endosulfan sulfate, and endrin ketone recoveries in the

September 23, 2009 morning calibration, and low heptachlor, aldrin, heptachlor epoxide, gamma-chlordane, alpha-chlordane, 4,4'-DDE, endosulfan I, dieldrin, endrin, endosulfan II, 4,4'-DDT, endrin aldehyde, methoxychlor, endosulfan sulfate, and endrin ketone recoveries in the September 23, 2009 afternoon calibrations; associated positive results and sample quantitation limits were qualified as estimated [J or UJ] for analytes associated with low calibration outliers.

**4. Error Determination: Not Provided.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

**5. Blanks: Acceptable.**

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and for each concentration level, or every 20 samples, whichever is greater, and for each analytical system. No target analytes were detected in any blanks.

**6. Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**7. System Monitoring Compounds (SMCs): Satisfactory.**

All recoveries of the SMCs were within the established control limits except one low pesticide SMC recovery each in samples 09090908, 09090909, and 09090912; associated positive results and samples quantitation limits were qualified as estimated quantities (J or UJ).

**8. Matrix and Blank Spikes: Satisfactory.**

Recoveries of all spiked analytes were within the appropriate control limits except one low dieldrin blank spike result and one low gamma-BHC blank spike result in the TCLP matrix spike analysis of sample 09090907; associated positive results and sample quantitation limits were qualified as estimated quantities (J or UJ).

**9. Duplicates: Satisfactory.**

Relative Percent Differences (RPDs) of all spiked analytes were within the required control limits except the dieldrin blank spike duplicate result; no additional action was taken.

**10. Compound Identification: Satisfactory.**

Positive sample results with percent differences between the columns greater than 25% were qualified as estimated quantities (J).

**11. Target Compound Quantitation and Quantitation Limits: Acceptable.**

Sample results and quantitation limits were correctly calculated.

**12. Laboratory Contact**

No laboratory contact was required.

**13. Overall Assessment**

The overall usefulness of the data is based on the criteria outlined in the site-specific sampling plan,

the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- JN - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- N - The analysis indicates the present of an analyte for which there is presumptive evidence to make a "tentative identification".
- R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for; but not detected. The reported detection limit is estimated because quality control criteria were not met.

Date of Report: September 29, 2009  
 Samples Submitted: September 11, 2009  
 Lab Traveler: 0909-103  
 Project: 10HD-09/10/09-0005

## PCBs by EPA 8082

Matrix: Soil  
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09090912 09050762					
Laboratory ID:	09-103-12					
Aroclor 1016	ND	0.052	EPA 8082	9-16-09	9-17-09	
Aroclor 1221	ND	0.052	EPA 8082	9-16-09	9-17-09	
Aroclor 1232	ND	0.052	EPA 8082	9-16-09	9-17-09	
Aroclor 1242	0.14	0.052	EPA 8082	9-16-09	9-17-09	
Aroclor 1248	ND	0.052	EPA 8082	9-16-09	9-17-09	
Aroclor 1254	1.5	0.052	EPA 8082	9-16-09	9-17-09	
Aroclor 1260	ND	0.052	EPA 8082	9-16-09	9-17-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	94	33-122				

MW  
10/14/09

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 29, 2009  
 Samples Submitted: September 11, 2009  
 Lab Traveler: 0909-103  
 Project: 10HD-09/10/09-0005

**ORGANOCHLORINE  
 PESTICIDES by EPA 8081A**

Matrix: Soil  
 Units: ug/Kg (ppb)

*09090912*

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	<del>09030762</del> <i>MM</i>					
Laboratory ID:	09-103-12					
alpha-BHC	ND	5.2	EPA 8081	9-15-09	9-23-09	
gamma-BHC	ND	5.2	EPA 8081	9-15-09	9-23-09	
beta-BHC	ND	5.2	EPA 8081	9-15-09	9-23-09	
delta-BHC	ND	5.2	EPA 8081	9-15-09	9-23-09	
Heptachlor	ND	5.2	EPA 8081	9-15-09	9-23-09	
Aldrin	ND	5.2	EPA 8081	9-15-09	9-23-09	
Heptachlor Epoxide	ND	5.2	EPA 8081	9-15-09	9-23-09	
gamma-Chlordane	ND	10	EPA 8081	9-15-09	9-23-09	
alpha-Chlordane	ND	10	EPA 8081	9-15-09	9-23-09	
4,4'-DDE	19	10	EPA 8081	9-15-09	9-23-09	
Endosulfan I	ND	5.2	EPA 8081	9-15-09	9-23-09	
Dieldrin	29	10	EPA 8081	9-15-09	9-23-09	
Endrin	ND	10	EPA 8081	9-15-09	9-23-09	
4,4'-DDD	ND	10	EPA 8081	9-15-09	9-23-09	
Endosulfan II	ND	10	EPA 8081	9-15-09	9-23-09	
4,4'-DDT	58	10	EPA 8081	9-15-09	9-23-09	
Endrin Aldehyde	ND	10	EPA 8081	9-15-09	9-23-09	
Methoxychlor	ND	10	EPA 8081	9-15-09	9-23-09	
Endsulfan Sulfate	ND	10	EPA 8081	9-15-09	9-23-09	
Endrin Ketone	ND	10	EPA 8081	9-15-09	9-23-09	
Toxaphene	ND	52	EPA 8081	9-15-09	9-23-09	
Surrogate:	Percent Recovery	Control Limits				
TCMX	69	43-99				
DCB	48	44-104				

*MC  
10/4/09*



# ecology and environment, inc.

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## MEMORANDUM

DATE: October 14, 2009

TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**

REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 7 soil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington, has been completed. Semivolatile Organic Compound (SVOC) analysis (EPA Method 8270) was performed by OnSite Environmental, Inc., Redmond, Washington.

The samples were numbered:

09090941	09090942	09090943	09090944	09090956
09090957	09090958			

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on September 9, 2009, were extracted by September 15, 2009, and were analyzed by September 16, 2009, therefore meeting holding time criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis.

#### 2. **Tuning: Acceptable.**

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. **Initial Calibration: Satisfactory.**

All average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All Relative Standard Deviations (RSDs) were less than the QC limit of 30% except 2,4-dinitrophenol in both initial calibrations; associated positive results were qualified as estimated quantities (J).

#### 4. **Continuing Calibration: Satisfactory.**

All RRFs were greater than the QC limit of 0.050. All % differences were less than the QC limit of 25 % except 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol in the 9-15-09 calibration, all with

decreasing response factors. Associated positive results and sample quantitation limits were qualified as estimated quantities (J or UJ).

**5. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs): Acceptable.**

All SMC recoveries were within QC limits.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD)/Blank Spike (BS) Analysis: Acceptable.**

All spike analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within the QC limits.

**8. Duplicate Analysis: Acceptable.**

Spike duplicate analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**9. Internal Standards: Acceptable.**

All internal standards (IS) were within  $\pm 30$  seconds of the continuing calibration IS retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the site-specific sampling plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

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

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

SEMIVOLATILES by EPA 8270/SIM  
 page 1 of 2

Matrix: Soil  
 Units: mg/Kg

0909091

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	9050741					
Laboratory ID:	09-091-01					
N-Nitrosodimethylamine	ND	4.1	EPA 8270	9-11-09	9-16-09	
Pyridine	ND	4.1	EPA 8270	9-11-09	9-16-09	
Phenol	ND	4.1	EPA 8270	9-11-09	9-16-09	
Aniline	ND	4.1	EPA 8270	9-11-09	9-16-09	
bis(2-Chloroethyl)ether	ND	4.1	EPA 8270	9-11-09	9-16-09	
2-Chlorophenol	ND	4.1	EPA 8270	9-11-09	9-16-09	
1,3-Dichlorobenzene	ND	4.1	EPA 8270	9-11-09	9-16-09	
1,4-Dichlorobenzene	ND	4.1	EPA 8270	9-11-09	9-16-09	
Benzyl alcohol	ND	4.1	EPA 8270	9-11-09	9-16-09	
1,2-Dichlorobenzene	ND	4.1	EPA 8270	9-11-09	9-16-09	
2-Methylphenol (o-Cresol)	ND	4.1	EPA 8270	9-11-09	9-16-09	
bis(2-Chloroisopropyl)ether	ND	4.1	EPA 8270	9-11-09	9-16-09	
(3+4)-Methylphenol (m,p-Cresol)	ND	4.1	EPA 8270	9-11-09	9-16-09	
N-Nitroso-di-n-propylamine	ND	4.1	EPA 8270	9-11-09	9-16-09	
Hexachloroethane	ND	4.1	EPA 8270	9-11-09	9-16-09	
Nitrobenzene	ND	4.1	EPA 8270	9-11-09	9-16-09	
Isophorone	ND	4.1	EPA 8270	9-11-09	9-16-09	
2-Nitrophenol	ND	4.1	EPA 8270	9-11-09	9-16-09	
2,4-Dimethylphenol	ND	4.1	EPA 8270	9-11-09	9-16-09	
bis(2-Chloroethoxy)methane	ND	4.1	EPA 8270	9-11-09	9-16-09	
2,4-Dichlorophenol	ND	4.1	EPA 8270	9-11-09	9-16-09	
1,2,4-Trichlorobenzene	ND	4.1	EPA 8270	9-11-09	9-16-09	
Naphthalene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
4-Chloroaniline	ND	4.1	EPA 8270	9-11-09	9-16-09	
Hexachlorobutadiene	ND	4.1	EPA 8270	9-11-09	9-16-09	
4-Chloro-3-methylphenol	ND	4.1	EPA 8270	9-11-09	9-16-09	
2-Methylnaphthalene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
1-Methylnaphthalene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Hexachlorocyclopentadiene	ND	4.1	EPA 8270	9-11-09	9-16-09	
2,4,6-Trichlorophenol	ND	4.1	EPA 8270	9-11-09	9-16-09	
2,3-Dichloroaniline	ND	4.1	EPA 8270	9-11-09	9-16-09	
2,4,5-Trichlorophenol	ND	4.1	EPA 8270	9-11-09	9-16-09	
2-Chloronaphthalene	ND	4.1	EPA 8270	9-11-09	9-16-09	
2-Nitroaniline	ND	4.1	EPA 8270	9-11-09	9-16-09	
1,4-Dinitrobenzene	ND	4.1	EPA 8270	9-11-09	9-16-09	
Dimethylphthalate	ND	4.1	EPA 8270	9-11-09	9-16-09	
1,3-Dinitrobenzene	ND	4.1	EPA 8270	9-11-09	9-16-09	
2,6-Dinitrotoluene	ND	4.1	EPA 8270	9-11-09	9-16-09	
1,2-Dinitrobenzene	ND	4.1	EPA 8270	9-11-09	9-16-09	
Acenaphthylene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
3-Nitroaniline	ND	4.1	EPA 8270	9-11-09	9-16-09	

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MW  
 10/14/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

SEMIVOLATILES by EPA 8270D/SIM  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	9050741					
Laboratory ID:	09-091-01					
2,4-Dinitrophenol	ND	21	EPA 8270	9-11-09	9-16-09	
Acenaphthene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
4-Nitrophenol	ND	4.1	EPA 8270	9-11-09	9-16-09	
2,4-Dinitrotoluene	ND	4.1	EPA 8270	9-11-09	9-16-09	
Dibenzofuran	ND	4.1	EPA 8270	9-11-09	9-16-09	
2,3,5,6-Tetrachlorophenol	ND	4.1	EPA 8270	9-11-09	9-16-09	
2,3,4,6-Tetrachlorophenol	ND	4.1	EPA 8270	9-11-09	9-16-09	
Diethylphthalate	ND	4.1	EPA 8270	9-11-09	9-16-09	
4-Chlorophenyl-phenylether	ND	4.1	EPA 8270	9-11-09	9-16-09	
4-Nitroaniline	ND	4.1	EPA 8270	9-11-09	9-16-09	
Fluorene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
4,6-Dinitro-2-methylphenol	ND	21	EPA 8270	9-11-09	9-16-09	
N-Nitrosodiphenylamine	ND	4.1	EPA 8270	9-11-09	9-16-09	
1,2-Diphenylhydrazine	ND	4.1	EPA 8270	9-11-09	9-16-09	
4-Bromophenyl-phenylether	ND	4.1	EPA 8270	9-11-09	9-16-09	
Hexachlorobenzene	ND	4.1	EPA 8270	9-11-09	9-16-09	
Pentachlorophenol	ND	21	EPA 8270	9-11-09	9-16-09	
Phenanthrene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Anthracene	0.99	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Carbazole	ND	4.1	EPA 8270	9-11-09	9-16-09	
Di-n-butylphthalate	ND	4.1	EPA 8270	9-11-09	9-16-09	
Fluoranthene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Benzidine	ND	41	EPA 8270	9-11-09	9-16-09	
Pyrene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Butylbenzylphthalate	5.9	4.1	EPA 8270	9-11-09	9-16-09	
bis-2-Ethylhexyladipate	ND	4.1	EPA 8270	9-11-09	9-16-09	
3,3'-Dichlorobenzidine	ND	41	EPA 8270	9-11-09	9-16-09	
Benzo[a]anthracene	0.20	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Chrysene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
bis(2-Ethylhexyl)phthalate	13	4.1	EPA 8270	9-11-09	9-16-09	
Di-n-octylphthalate	ND	4.1	EPA 8270	9-11-09	9-16-09	
Benzo[b]fluoranthene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Benzo[k]fluoranthene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Benzo[a]pyrene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Indeno[1,2,3-cd]pyrene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Dibenzo[a,h]anthracene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Benzo[g,h,i]perylene	ND	0.082	EPA 8270/SIM	9-11-09	9-15-09	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorophenol	58	19 - 97				
Phenol-d6	63	22 - 108				
Nitrobenzene-d5	66	21 - 106				
2-Fluorobiphenyl	69	29 - 107				
2,4,6-Tribromophenol	85	44 - 121				
Terphenyl-d14	88	37 - 120				

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*Handwritten signature:* MW  
 10/1/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

SEMIVOLATILES by EPA 8270D/SIM  
 page 1. of 2

Matrix: Soil  
 Units: mg/Kg

09090942

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	9050742					
Laboratory ID:	09-091-02					
N-Nitrosodimethylamine	ND	0.040	EPA 8270	9-11-09	9-11-09	
Pyridine	ND	0.040	EPA 8270	9-11-09	9-11-09	
Phenol	ND	0.040	EPA 8270	9-11-09	9-11-09	
Aniline	ND	0.040	EPA 8270	9-11-09	9-11-09	
bis(2-Chloroethyl)ether	ND	0.040	EPA 8270	9-11-09	9-11-09	
2-Chlorophenol	ND	0.040	EPA 8270	9-11-09	9-11-09	
1,3-Dichlorobenzene	ND	0.040	EPA 8270	9-11-09	9-11-09	
1,4-Dichlorobenzene	ND	0.040	EPA 8270	9-11-09	9-11-09	
Benzyl alcohol	ND	0.040	EPA 8270	9-11-09	9-11-09	
1,2-Dichlorobenzene	ND	0.040	EPA 8270	9-11-09	9-11-09	
2-Methylphenol (o-Cresol)	ND	0.040	EPA 8270	9-11-09	9-11-09	
bis(2-Chloroisopropyl)ether	ND	0.040	EPA 8270	9-11-09	9-11-09	
(3+4)-Methylphenol (m,p-Cresol)	ND	0.040	EPA 8270	9-11-09	9-11-09	
N-Nitroso-di-n-propylamine	ND	0.040	EPA 8270	9-11-09	9-11-09	
Hexachloroethane	ND	0.040	EPA 8270	9-11-09	9-11-09	
Nitrobenzene	ND	0.040	EPA 8270	9-11-09	9-11-09	
Isophorone	ND	0.040	EPA 8270	9-11-09	9-11-09	
2-Nitrophenol	ND	0.040	EPA 8270	9-11-09	9-11-09	
2,4-Dimethylphenol	ND	0.040	EPA 8270	9-11-09	9-11-09	
bis(2-Chloroethoxy)methane	ND	0.040	EPA 8270	9-11-09	9-11-09	
2,4-Dichlorophenol	ND	0.040	EPA 8270	9-11-09	9-11-09	
1,2,4-Trichlorobenzene	ND	0.040	EPA 8270	9-11-09	9-11-09	
Naphthalene	ND	0.0080	EPA 8270/SIM	9-11-09	9-14-09	
4-Chloroaniline	ND	0.040	EPA 8270	9-11-09	9-11-09	
Hexachlorobutadiene	ND	0.040	EPA 8270	9-11-09	9-11-09	
4-Chloro-3-methylphenol	ND	0.040	EPA 8270	9-11-09	9-11-09	
2-Methylnaphthalene	ND	0.0080	EPA 8270/SIM	9-11-09	9-14-09	
1-Methylnaphthalene	ND	0.0080	EPA 8270/SIM	9-11-09	9-14-09	
Hexachlorocyclopentadiene	ND	0.040	EPA 8270	9-11-09	9-11-09	
2,4,6-Trichlorophenol	ND	0.040	EPA 8270	9-11-09	9-11-09	
2,3-Dichloroaniline	ND	0.040	EPA 8270	9-11-09	9-11-09	
2,4,5-Trichlorophenol	ND	0.040	EPA 8270	9-11-09	9-11-09	
2-Chloronaphthalene	ND	0.040	EPA 8270	9-11-09	9-11-09	
2-Nitroaniline	ND	0.040	EPA 8270	9-11-09	9-11-09	
1,4-Dinitrobenzene	ND	0.040	EPA 8270	9-11-09	9-11-09	
Dimethylphthalate	ND	0.040	EPA 8270	9-11-09	9-11-09	
1,3-Dinitrobenzene	ND	0.040	EPA 8270	9-11-09	9-11-09	
2,6-Dinitrotoluene	ND	0.040	EPA 8270	9-11-09	9-11-09	
1,2-Dinitrobenzene	ND	0.040	EPA 8270	9-11-09	9-11-09	
Acenaphthylene	ND	0.0080	EPA 8270/SIM	9-11-09	9-14-09	
3-Nitroaniline	ND	0.040	EPA 8270	9-11-09	9-11-09	

OnSite Environmental, Inc. 14548 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

## SEMIVOLATILES by EPA 8270D/SIM

page 2 of 2

09090912

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	<del>90507421</del>					
Laboratory ID:	09-091-02					
2,4-Dinitrophenol	ND	0.20	EPA 8270	9-11-09	9-11-09	
Acenaphthene	ND	0.0080	EPA 8270/SIM	9-11-09	9-14-09	
4-Nitrophenol	ND	0.040	EPA 8270	9-11-09	9-11-09	
2,4-Dinitrotoluene	ND	0.040	EPA 8270	9-11-09	9-11-09	
Dibenzofuran	ND	0.040	EPA 8270	9-11-09	9-11-09	
2,3,5,6-Tetrachlorophenol	ND	0.040	EPA 8270	9-11-09	9-11-09	
2,3,4,6-Tetrachlorophenol	ND	0.040	EPA 8270	9-11-09	9-11-09	
Diethylphthalate	ND	0.040	EPA 8270	9-11-09	9-11-09	
4-Chlorophenyl-phenylether	ND	0.040	EPA 8270	9-11-09	9-11-09	
4-Nitroaniline	ND	0.040	EPA 8270	9-11-09	9-11-09	
Fluorene	ND	0.0080	EPA 8270/SIM	9-11-09	9-14-09	
4,6-Dinitro-2-methylphenol	ND	0.20	EPA 8270	9-11-09	9-11-09	
N-Nitrosodiphenylamine	ND	0.040	EPA 8270	9-11-09	9-11-09	
1,2-Diphenylhydrazine	ND	0.040	EPA 8270	9-11-09	9-11-09	
4-Bromophenyl-phenylether	ND	0.040	EPA 8270	9-11-09	9-11-09	
Hexachlorobenzene	ND	0.040	EPA 8270	9-11-09	9-11-09	
Pentachlorophenol	ND	0.20	EPA 8270	9-11-09	9-11-09	
Phenanthrene	0.097	0.040	EPA 8270	9-11-09	9-11-09	
Anthracene	0.016	0.0080	EPA 8270/SIM	9-11-09	9-14-09	
Carbazole	ND	0.040	EPA 8270	9-11-09	9-11-09	
Di-n-butylphthalate	0.14	0.040	EPA 8270	9-11-09	9-11-09	
Fluoranthene	0.36	0.040	EPA 8270	9-11-09	9-11-09	
Benzidine	ND	0.40	EPA 8270	9-11-09	9-11-09	
Pyrene	0.29	0.040	EPA 8270	9-11-09	9-11-09	
Butylbenzylphthalate	ND	0.040	EPA 8270	9-11-09	9-11-09	
bis-2-Ethylhexyladipate	ND	0.040	EPA 8270	9-11-09	9-11-09	
3,3'-Dichlorobenzidine	ND	0.40	EPA 8270	9-11-09	9-11-09	
Benzo[a]anthracene	0.17	0.040	EPA 8270	9-11-09	9-11-09	
Chrysene	0.25	0.040	EPA 8270	9-11-09	9-11-09	
bis(2-Ethylhexyl)phthalate	ND	0.040	EPA 8270	9-11-09	9-11-09	
Di-n-octylphthalate	ND	0.040	EPA 8270	9-11-09	9-11-09	
Benzo[b]fluoranthene	0.19	0.040	EPA 8270	9-11-09	9-11-09	
Benzo[k]fluoranthene	0.17	0.040	EPA 8270	9-11-09	9-11-09	
Benzo[a]pyrene	0.15	0.040	EPA 8270	9-11-09	9-11-09	
Indeno[1,2,3-cd]pyrene	0.084	0.040	EPA 8270	9-11-09	9-11-09	
Dibenz[a,h]anthracene	0.027	0.0080	EPA 8270/SIM	9-11-09	9-14-09	
Benzo[g,h,i]perylene	0.095	0.040	EPA 8270	9-11-09	9-11-09	
<b>Surrogate:</b>	<b>Percent Recovery</b>	<b>Control Limits</b>				
2-Fluorophenol	71	19 - 97				
Phenol-d6	74	22 - 108				
Nitrobenzene-d5	66	21 - 106				
2-Fluorobiphenyl	76	29 - 107				
2,4,6-Tribromophenol	82	44 - 121				
Terphenyl-d14	77	37 - 120				

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

*Mu*  
*Taylor*

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

SEMIVOLATILES by EPA 8270/SIM  
 page 1 of 2

Matrix: Soil  
 Units: mg/Kg

*09090913*

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	<del>89056743</del>					
Laboratory ID:	09-091-03					
N-Nitrosodimethylamine	ND	0.038	EPA 8270	9-11-09	9-14-09	
Pyridine	ND	0.038	EPA 8270	9-11-09	9-14-09	
Phenol	ND	0.038	EPA 8270	9-11-09	9-14-09	
Aniline	ND	0.038	EPA 8270	9-11-09	9-14-09	
bis(2-Chloroethyl)ether	ND	0.038	EPA 8270	9-11-09	9-14-09	
2-Chlorophenol	ND	0.038	EPA 8270	9-11-09	9-14-09	
1,3-Dichlorobenzene	ND	0.038	EPA 8270	9-11-09	9-14-09	
1,4-Dichlorobenzene	ND	0.038	EPA 8270	9-11-09	9-14-09	
Benzyl alcohol	ND	0.038	EPA 8270	9-11-09	9-14-09	
1,2-Dichlorobenzene	ND	0.038	EPA 8270	9-11-09	9-14-09	
2-Methylphenol (o-Cresol)	ND	0.038	EPA 8270	9-11-09	9-14-09	
bis(2-Chloroisopropyl)ether	ND	0.038	EPA 8270	9-11-09	9-14-09	
(3+4)-Methylphenol (m,p-Cresol)	ND	0.038	EPA 8270	9-11-09	9-14-09	
N-Nitroso-di-n-propylamine	ND	0.038	EPA 8270	9-11-09	9-14-09	
Hexachloroethane	ND	0.038	EPA 8270	9-11-09	9-14-09	
Nitrobenzene	ND	0.038	EPA 8270	9-11-09	9-14-09	
Isophorone	ND	0.038	EPA 8270	9-11-09	9-14-09	
2-Nitrophenol	ND	0.038	EPA 8270	9-11-09	9-14-09	
2,4-Dimethylphenol	ND	0.038	EPA 8270	9-11-09	9-14-09	
bis(2-Chloroethoxy)methane	ND	0.038	EPA 8270	9-11-09	9-14-09	
2,4-Dichlorophenol	ND	0.038	EPA 8270	9-11-09	9-14-09	
1,2,4-Trichlorobenzene	ND	0.038	EPA 8270	9-11-09	9-14-09	
Naphthalene	ND	0.0077	EPA 8270/SIM	9-11-09	9-14-09	
4-Chloroaniline	ND	0.038	EPA 8270	9-11-09	9-14-09	
Hexachlorobutadiene	ND	0.038	EPA 8270	9-11-09	9-14-09	
4-Chloro-3-methylphenol	ND	0.038	EPA 8270	9-11-09	9-14-09	
2-Methylnaphthalene	0.011	0.0077	EPA 8270/SIM	9-11-09	9-14-09	
1-Methylnaphthalene	0.011	0.0077	EPA 8270/SIM	9-11-09	9-14-09	
Hexachlorocyclopentadiene	ND	0.038	EPA 8270	9-11-09	9-14-09	
2,4,6-Trichlorophenol	ND	0.038	EPA 8270	9-11-09	9-14-09	
2,3-Dichloroaniline	ND	0.038	EPA 8270	9-11-09	9-14-09	
2,4,5-Trichlorophenol	ND	0.038	EPA 8270	9-11-09	9-14-09	
2-Chloronaphthalene	ND	0.038	EPA 8270	9-11-09	9-14-09	
2-Nitroaniline	ND	0.038	EPA 8270	9-11-09	9-14-09	
1,4-Dinitrobenzene	ND	0.038	EPA 8270	9-11-09	9-14-09	
Dimethylphthalate	ND	0.038	EPA 8270	9-11-09	9-14-09	
1,3-Dinitrobenzene	ND	0.038	EPA 8270	9-11-09	9-14-09	
2,6-Dinitrotoluene	ND	0.038	EPA 8270	9-11-09	9-14-09	
1,2-Dinitrobenzene	ND	0.038	EPA 8270	9-11-09	9-14-09	
Acenaphthylene	0.0082	0.0077	EPA 8270/SIM	9-11-09	9-14-09	
3-Nitroaniline	ND	0.038	EPA 8270	9-11-09	9-14-09	

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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*mm*  
*10/1/09*

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

SEMIVOLATILES by EPA 8270D/SIM  
 page 2 of 2

09090913

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09050745 MW					
Laboratory ID:	09-091-03					
2,4-Dinitrophenol	ND	0.19	EPA 8270	9-11-09	9-14-09	
Acenaphthene	ND	0.0077	EPA 8270/SIM	9-11-09	9-14-09	
4-Nitrophenol	ND	0.038	EPA 8270	9-11-09	9-14-09	
2,4-Dinitrotoluene	ND	0.038	EPA 8270	9-11-09	9-14-09	
Dibenzofuran	ND	0.038	EPA 8270	9-11-09	9-14-09	
2,3,5,6-Tetrachlorophenol	ND	0.038	EPA 8270	9-11-09	9-14-09	
2,3,4,6-Tetrachlorophenol	ND	0.038	EPA 8270	9-11-09	9-14-09	
Diethylphthalate	ND	0.038	EPA 8270	9-11-09	9-14-09	
4-Chlorophenyl-phenylether	ND	0.038	EPA 8270	9-11-09	9-14-09	
4-Nitroaniline	ND	0.038	EPA 8270	9-11-09	9-14-09	
Fluorene	ND	0.0077	EPA 8270/SIM	9-11-09	9-14-09	
4,6-Dinitro-2-methylphenol	ND	0.19	EPA 8270	9-11-09	9-14-09	
N-Nitrosodiphenylamine	ND	0.038	EPA 8270	9-11-09	9-14-09	
1,2-Diphenylhydrazine	ND	0.038	EPA 8270	9-11-09	9-14-09	
4-Bromophenyl-phenylether	ND	0.038	EPA 8270	9-11-09	9-14-09	
Hexachlorobenzene	ND	0.038	EPA 8270	9-11-09	9-14-09	
Pentachlorophenol	ND MW	0.19	EPA 8270	9-11-09	9-14-09	
Phenanthrene	0.082	0.038	EPA 8270	9-11-09	9-14-09	
Anthracene	0.028	0.0077	EPA 8270/SIM	9-11-09	9-14-09	
Carbazole	ND	0.038	EPA 8270	9-11-09	9-14-09	
Di-n-butylphthalate	ND MW	0.038	EPA 8270	9-11-09	9-14-09	
Fluoranthene	0.25	0.038	EPA 8270	9-11-09	9-14-09	
Benzidine	ND MW	0.38	EPA 8270	9-11-09	9-14-09	
Pyrene	0.19	0.038	EPA 8270	9-11-09	9-14-09	
Butylbenzylphthalate	ND	0.038	EPA 8270	9-11-09	9-14-09	
bis-2-Ethylhexyladipate	ND	0.038	EPA 8270	9-11-09	9-14-09	
3,3'-Dichlorobenzidine	ND MW	0.38	EPA 8270	9-11-09	9-14-09	
Benzo[a]anthracene	0.11	0.038	EPA 8270	9-11-09	9-14-09	
Chrysene	0.17	0.038	EPA 8270	9-11-09	9-14-09	
bis(2-Ethylhexyl)phthalate	0.057	0.038	EPA 8270	9-11-09	9-14-09	
Di-n-octylphthalate	ND MW	0.038	EPA 8270	9-11-09	9-14-09	
Benzo[b]fluoranthene	0.12	0.038	EPA 8270	9-11-09	9-14-09	
Benzo[k]fluoranthene	0.12	0.038	EPA 8270	9-11-09	9-14-09	
Benzo[a]pyrene	0.099	0.038	EPA 8270	9-11-09	9-14-09	
Indeno[1,2,3-cd]pyrene	0.080	0.038	EPA 8270	9-11-09	9-14-09	
Dibenz[a,h]anthracene	0.019	0.0077	EPA 8270/SIM	9-11-09	9-14-09	
Benzo[g,h,i]perylene	0.10	0.038	EPA 8270	9-11-09	9-14-09	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorophenol	73	19 - 97				
Phenol-d6	78	22 - 108				
Nitrobenzene-d5	72	21 - 106				
2-Fluorobiphenyl	78	29 - 107				
2,4,6-Tribromophenol	115	44 - 121				
Terphenyl-d14	75	37 - 120				

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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Date of Report: September 25, 2009  
Samples Submitted: September 10, 2009  
Laboratory Reference: 0909-091  
Project: 10HD-09/09/09-0003

SEMIVOLATILES by EPA 8270D/SIM  
page 1 of 2

Matrix: Soil  
Units: mg/Kg

09090944

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09090944					
Laboratory ID:	09-091-04					
N-Nitrosodimethylamine	ND	0.041	EPA 8270	9-11-09	9-11-09	
Pyridine	ND	0.041	EPA 8270	9-11-09	9-11-09	
Phenol	ND	0.041	EPA 8270	9-11-09	9-11-09	
Aniline	ND	0.041	EPA 8270	9-11-09	9-11-09	
bis(2-Chloroethyl)ether	ND	0.041	EPA 8270	9-11-09	9-11-09	
2-Chlorophenol	ND	0.041	EPA 8270	9-11-09	9-11-09	
1,3-Dichlorobenzene	ND	0.041	EPA 8270	9-11-09	9-11-09	
1,4-Dichlorobenzene	ND	0.041	EPA 8270	9-11-09	9-11-09	
Benzyl alcohol	ND	0.041	EPA 8270	9-11-09	9-11-09	
1,2-Dichlorobenzene	ND	0.041	EPA 8270	9-11-09	9-11-09	
2-Methylphenol (o-Cresol)	ND	0.041	EPA 8270	9-11-09	9-11-09	
bis(2-Chloroisopropyl)ether	ND	0.041	EPA 8270	9-11-09	9-11-09	
(3+4)-Methylphenol (m,p-Cresol)	ND	0.041	EPA 8270	9-11-09	9-11-09	
N-Nitroso-di-n-propylamine	ND	0.041	EPA 8270	9-11-09	9-11-09	
Hexachloroethane	ND	0.041	EPA 8270	9-11-09	9-11-09	
Nitrobenzene	ND	0.041	EPA 8270	9-11-09	9-11-09	
Isophorone	ND	0.041	EPA 8270	9-11-09	9-11-09	
2-Nitrophenol	ND	0.041	EPA 8270	9-11-09	9-11-09	
2,4-Dimethylphenol	ND	0.041	EPA 8270	9-11-09	9-11-09	
bis(2-Chloroethoxy)methane	ND	0.041	EPA 8270	9-11-09	9-11-09	
2,4-Dichlorophenol	ND	0.041	EPA 8270	9-11-09	9-11-09	
1,2,4-Trichlorobenzene	ND	0.041	EPA 8270	9-11-09	9-11-09	
Naphthalene	ND	0.0081	EPA 8270/SIM	9-11-09	9-14-09	
4-Chloroaniline	ND	0.041	EPA 8270	9-11-09	9-11-09	
Hexachlorobutadiene	ND	0.041	EPA 8270	9-11-09	9-11-09	
4-Chloro-3-methylphenol	ND	0.041	EPA 8270	9-11-09	9-11-09	
2-Methylnaphthalene	ND	0.0081	EPA 8270/SIM	9-11-09	9-14-09	
1-Methylnaphthalene	ND	0.0081	EPA 8270/SIM	9-11-09	9-14-09	
Hexachlorocyclopentadiene	ND	0.041	EPA 8270	9-11-09	9-11-09	
2,4,6-Trichlorophenol	ND	0.041	EPA 8270	9-11-09	9-11-09	
2,3-Dichloroaniline	ND	0.041	EPA 8270	9-11-09	9-11-09	
2,4,5-Trichlorophenol	ND	0.041	EPA 8270	9-11-09	9-11-09	
2-Chloronaphthalene	ND	0.041	EPA 8270	9-11-09	9-11-09	
2-Nitroaniline	ND	0.041	EPA 8270	9-11-09	9-11-09	
1,4-Dinitrobenzene	ND	0.041	EPA 8270	9-11-09	9-11-09	
Dimethylphthalate	ND	0.041	EPA 8270	9-11-09	9-11-09	
1,3-Dinitrobenzene	ND	0.041	EPA 8270	9-11-09	9-11-09	
2,6-Dinitrotoluene	ND	0.041	EPA 8270	9-11-09	9-11-09	
1,2-Dinitrobenzene	ND	0.041	EPA 8270	9-11-09	9-11-09	
Acenaphthylene	0.0092	0.0081	EPA 8270/SIM	9-11-09	9-14-09	
3-Nitroaniline	ND	0.041	EPA 8270	9-11-09	9-11-09	

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Handwritten signature and date: 10/14/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

SEMIVOLATILES by EPA 8270D/SIM  
 page 2 of 2

09090914

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09050744					
Laboratory ID:	09-091-04					
2,4-Dinitrophenol	ND	0.20	EPA 8270	9-11-09	9-11-09	
Acenaphthene	ND	0.0081	EPA 8270/SIM	9-11-09	9-14-09	
4-Nitrophenol	ND	0.041	EPA 8270	9-11-09	9-11-09	
2,4-Dinitrotoluene	ND	0.041	EPA 8270	9-11-09	9-11-09	
Dibenzofuran	ND	0.041	EPA 8270	9-11-09	9-11-09	
2,3,5,6-Tetrachlorophenol	ND	0.041	EPA 8270	9-11-09	9-11-09	
2,3,4,6-Tetrachlorophenol	ND	0.041	EPA 8270	9-11-09	9-11-09	
Diethylphthalate	ND	0.041	EPA 8270	9-11-09	9-11-09	
4-Chlorophenyl-phenylether	ND	0.041	EPA 8270	9-11-09	9-11-09	
4-Nitroaniline	ND	0.041	EPA 8270	9-11-09	9-11-09	
Fluorene	ND	0.0081	EPA 8270/SIM	9-11-09	9-14-09	
4,6-Dinitro-2-methylphenol	ND	0.20	EPA 8270	9-11-09	9-11-09	
N-Nitrosodiphenylamine	ND	0.041	EPA 8270	9-11-09	9-11-09	
1,2-Diphenylhydrazine	ND	0.041	EPA 8270	9-11-09	9-11-09	
4-Bromophenyl-phenylether	ND	0.041	EPA 8270	9-11-09	9-11-09	
Hexachlorobenzene	ND	0.041	EPA 8270	9-11-09	9-11-09	
Pentachlorophenol	ND	0.20	EPA 8270	9-11-09	9-11-09	
Phenanthrene	0.014	0.0081	EPA 8270/SIM	9-11-09	9-14-09	
Anthracene	0.011	0.0081	EPA 8270/SIM	9-11-09	9-14-09	
Carbazole	ND	0.041	EPA 8270	9-11-09	9-11-09	
Di-n-butylphthalate	ND	0.041	EPA 8270	9-11-09	9-11-09	
Fluoranthene	0.068	0.041	EPA 8270	9-11-09	9-11-09	
Benzidine	ND	0.41	EPA 8270	9-11-09	9-11-09	
Pyrene	0.062	0.041	EPA 8270	9-11-09	9-11-09	
Butylbenzylphthalate	ND	0.041	EPA 8270	9-11-09	9-11-09	
bis-2-Ethylhexyladipate	ND	0.041	EPA 8270	9-11-09	9-11-09	
3,3'-Dichlorobenzidine	ND	0.41	EPA 8270	9-11-09	9-11-09	
Benzo[a]anthracene	0.050	0.041	EPA 8270	9-11-09	9-11-09	
Chrysene	0.086	0.041	EPA 8270	9-11-09	9-11-09	
bis(2-Ethylhexyl)phthalate	ND	0.041	EPA 8270	9-11-09	9-11-09	
Di-n-octylphthalate	ND	0.041	EPA 8270	9-11-09	9-11-09	
Benzo[b]fluoranthene	0.086	0.041	EPA 8270	9-11-09	9-11-09	
Benzo[k]fluoranthene	0.090	0.041	EPA 8270	9-11-09	9-11-09	
Benzo[a]pyrene	0.070	0.041	EPA 8270	9-11-09	9-11-09	
Indeno[1,2,3-cd]pyrene	0.053	0.041	EPA 8270	9-11-09	9-11-09	
Dibenz[a,h]anthracene	0.014	0.0081	EPA 8270/SIM	9-11-09	9-14-09	
Benzo[g,h,i]perylene	0.061	0.041	EPA 8270	9-11-09	9-11-09	
<b>Surrogate:</b>	<b>Percent Recovery</b>	<b>Control Limits</b>				
2-Fluorophenol	70	19 - 97				
Phenol-d6	72	22 - 108				
Nitrobenzene-d5	66	21 - 106				
2-Fluorobiphenyl	74	29 - 107				
2,4,6-Tribromophenol	82	44 - 121				
Terphenyl-d14	76	37 - 120				

MW  
 10/4/09

Date of Report: September 25, 2009  
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 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

SEMIVOLATILES by EPA 8270D/SIM  
 page 1 of 2

Matrix: Soil  
 Units: mg/Kg

09090908

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	9950758					
Laboratory ID:	09-091-09					
N-Nitrosodimethylamine	ND	1.8	EPA 8270	9-11-09	9-16-09	
Pyridine	ND	1.8	EPA 8270	9-11-09	9-16-09	
Phenol	ND	1.8	EPA 8270	9-11-09	9-16-09	
Aniline	ND	1.8	EPA 8270	9-11-09	9-16-09	
bis(2-Chloroethyl)ether	ND	1.8	EPA 8270	9-11-09	9-16-09	
2-Chlorophenol	ND	1.8	EPA 8270	9-11-09	9-16-09	
1,3-Dichlorobenzene	ND	1.8	EPA 8270	9-11-09	9-16-09	
1,4-Dichlorobenzene	ND	1.8	EPA 8270	9-11-09	9-16-09	
Benzyl alcohol	ND	1.8	EPA 8270	9-11-09	9-16-09	
1,2-Dichlorobenzene	ND	1.8	EPA 8270	9-11-09	9-16-09	
2-Methylphenol (o-Cresol)	ND	1.8	EPA 8270	9-11-09	9-16-09	
bis(2-Chloroisopropyl)ether	ND	1.8	EPA 8270	9-11-09	9-16-09	
(3+4)-Methylphenol (m,p-Cresol)	ND	1.8	EPA 8270	9-11-09	9-16-09	
N-Nitroso-di-n-propylamine	ND	1.8	EPA 8270	9-11-09	9-16-09	
Hexachloroethane	ND	1.8	EPA 8270	9-11-09	9-16-09	
Nitrobenzene	ND	1.8	EPA 8270	9-11-09	9-16-09	
Isophorone	ND	1.8	EPA 8270	9-11-09	9-16-09	
2-Nitrophenol	ND	1.8	EPA 8270	9-11-09	9-16-09	
2,4-Dimethylphenol	ND	1.8	EPA 8270	9-11-09	9-16-09	
bis(2-Chloroethoxy)methane	ND	1.8	EPA 8270	9-11-09	9-16-09	
2,4-Dichlorophenol	ND	1.8	EPA 8270	9-11-09	9-16-09	
1,2,4-Trichlorobenzene	ND	1.8	EPA 8270	9-11-09	9-16-09	
Naphthalene	ND	0.035	EPA 8270/SIM	9-11-09	9-15-09	
4-Chloroaniline	ND	1.8	EPA 8270	9-11-09	9-16-09	
Hexachlorobutadiene	ND	1.8	EPA 8270	9-11-09	9-16-09	
4-Chloro-3-methylphenol	ND	1.8	EPA 8270	9-11-09	9-16-09	
2-Methylnaphthalene	ND	0.035	EPA 8270/SIM	9-11-09	9-15-09	
1-Methylnaphthalene	ND	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Hexachlorocyclopentadiene	ND	1.8	EPA 8270	9-11-09	9-16-09	
2,4,6-Trichlorophenol	ND	1.8	EPA 8270	9-11-09	9-16-09	
2,3-Dichloroaniline	ND	1.8	EPA 8270	9-11-09	9-16-09	
2,4,5-Trichlorophenol	ND	1.8	EPA 8270	9-11-09	9-16-09	
2-Chloronaphthalene	ND	1.8	EPA 8270	9-11-09	9-16-09	
2-Nitroaniline	ND	1.8	EPA 8270	9-11-09	9-16-09	
1,4-Dinitrobenzene	ND	1.8	EPA 8270	9-11-09	9-16-09	
Dimethylphthalate	ND	1.8	EPA 8270	9-11-09	9-16-09	
1,3-Dinitrobenzene	ND	1.8	EPA 8270	9-11-09	9-16-09	
2,6-Dinitrotoluene	ND	1.8	EPA 8270	9-11-09	9-16-09	
1,2-Dinitrobenzene	ND	1.8	EPA 8270	9-11-09	9-16-09	
Acenaphthylene	ND	0.035	EPA 8270/SIM	9-11-09	9-15-09	
3-Nitroaniline	ND	1.8	EPA 8270	9-11-09	9-16-09	

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MW  
 10/14/09

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

SEMIVOLATILES by EPA 8270D/SIM  
 page 2 of 2

09090958

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	9950758					
Laboratory ID:	09-091-09					
2,4-Dinitrophenol	ND	8.9	EPA 8270	9-11-09	9-16-09	
Acenaphthene	ND	0.035	EPA 8270/SIM	9-11-09	9-15-09	
4-Nitrophenol	ND	1.8	EPA 8270	9-11-09	9-16-09	
2,4-Dinitrotoluene	ND	1.8	EPA 8270	9-11-09	9-16-09	
Dibenzofuran	ND	1.8	EPA 8270	9-11-09	9-16-09	
2,3,5,6-Tetrachlorophenol	ND	1.8	EPA 8270	9-11-09	9-16-09	
2,3,4,6-Tetrachlorophenol	ND	1.8	EPA 8270	9-11-09	9-16-09	
Diethylphthalate	ND	1.8	EPA 8270	9-11-09	9-16-09	
4-Chlorophenyl-phenylether	ND	1.8	EPA 8270	9-11-09	9-16-09	
4-Nitroaniline	ND	1.8	EPA 8270	9-11-09	9-16-09	
Fluorene	ND	0.035	EPA 8270/SIM	9-11-09	9-15-09	
4,6-Dinitro-2-methylphenol	ND	8.9	EPA 8270	9-11-09	9-16-09	
N-Nitrosodiphenylamine	ND	1.8	EPA 8270	9-11-09	9-16-09	
1,2-Diphenylhydrazine	ND	1.8	EPA 8270	9-11-09	9-16-09	
4-Bromophenyl-phenylether	ND	1.8	EPA 8270	9-11-09	9-16-09	
Hexachlorobenzene	ND	1.8	EPA 8270	9-11-09	9-16-09	
Pentachlorophenol	ND	8.9	EPA 8270	9-11-09	9-16-09	
Phenanthrene	ND	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Anthracene	ND	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Carbazole	ND	1.8	EPA 8270	9-11-09	9-16-09	
Di-n-butylphthalate	ND	1.8	EPA 8270	9-11-09	9-16-09	
Fluoranthene	ND	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Benzidine	ND	1.8	EPA 8270	9-11-09	9-16-09	
Pyrene	ND	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Butylbenzylphthalate	ND	1.8	EPA 8270	9-11-09	9-16-09	
bis-2-Ethylhexyladipate	ND	1.8	EPA 8270	9-11-09	9-16-09	
3,3'-Dichlorobenzidine	NDM	1.8	EPA 8270	9-11-09	9-16-09	
Benzo[a]anthracene	0.11	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Chrysene	0.29	0.035	EPA 8270/SIM	9-11-09	9-15-09	
bis(2-Ethylhexyl)phthalate	7.1	1.8	EPA 8270	9-11-09	9-16-09	
Di-n-octylphthalate	NDM	1.8	EPA 8270	9-11-09	9-16-09	
Benzo[b]fluoranthene	0.25	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Benzo[k]fluoranthene	0.067	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Benzo[a]pyrene	0.097	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Indeno[1,2,3-cd]pyrene	0.069	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Dibenz[a,h]anthracene	NDM	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Benzo[g,h,i]perylene	0.092	0.035	EPA 8270/SIM	9-11-09	9-15-09	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorophenol	50	19 - 97				
Phenol-d6	62	22 - 108				
Nitrobenzene-d5	68	21 - 106				
2-Fluorobiphenyl	65	29 - 107				
2,4,6-Tribromophenol	66	44 - 121				
Terphenyl-d14	77	37 - 120				

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MW  
10/4/09



# ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: October 16, 2009  
TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR  
FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*  
SUBJ: **Organic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**  
REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 8 soil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington, has been completed. Semivolatile Organic Compound (SVOC) analysis (EPA Method 8270) was performed by OnSite Environmental, Inc., Redmond, Washington.

The samples were numbered:

09090902	09090903	09090916	09090917	09090959
09090960	09090961	07090963		

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on September 10, 2009, were extracted by September 19, 2009, and were analyzed by September 22, 2009, therefore meeting holding time criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis.

#### 2. **Tuning: Acceptable.**

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. **Initial Calibration: Satisfactory.**

All average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All Relative Standard Deviations (RSDs) were less than the QC limit of 30% except 2,4-dinitrophenol, benzidine, and benzoic acid. Associated positive results were qualified as estimated quantities (J).

#### 4. **Continuing Calibration: Satisfactory.**

All RRFs were greater than the QC limit of 0.050. All % differences were less than the QC limit of 25 % except 2,4-dinitrophenol, benzidine, and 3,3'-dichlorobenzidine with low recoveries in the

September 22, 2009 calibration. Associated positive results and sample quantitation limits were qualified as estimated quantities (J or UJ).

**5. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs): Acceptable.**

All SMC recoveries were within QC limits.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Analysis: Acceptable.**

All spike analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within the QC limits.

**8. Duplicate Analysis: Acceptable.**

Spike duplicate analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**9. Internal Standards: Acceptable.**

All internal standards (IS) were within  $\pm 30$  seconds of the continuing calibration IS retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the site-specific sampling plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

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

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

SEMIVOLATILES by EPA 8270D/SIM  
 page 1 of 2

Matrix: Soil  
 Units: mg/Kg

09090959

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09090959 MW					
Laboratory ID:	09-127-05					
N-Nitrosodimethylamine	ND	0.044	EPA 8270	9-19-09	9-22-09	
Pyridine	ND	0.044	EPA 8270	9-19-09	9-22-09	
Phenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
Aniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroethyl)ether	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Chlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,3-Dichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,4-Dichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Benzyl alcohol	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2-Dichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Methylphenol (o-Cresol)	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroisopropyl)ether	ND	0.044	EPA 8270	9-19-09	9-22-09	
(3+4)-Methylphenol (m,p-Cresol)	ND	0.044	EPA 8270	9-19-09	9-22-09	
N-Nitroso-di-n-propylamine	ND	0.044	EPA 8270	9-19-09	9-22-09	
Hexachloroethane	ND	0.044	EPA 8270	9-19-09	9-22-09	
Nitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Isophorone	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Nitrophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4-Dimethylphenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroethoxy)methane	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4-Dichlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2,4-Trichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Naphthalene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
4-Chloroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
Hexachlorobutadiene	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Chloro-3-methylphenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Methylnaphthalene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
1-Methylnaphthalene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Hexachlorocyclopentadiene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4,6-Trichlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,3-Dichloroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4,5-Trichlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Chloronaphthalene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Nitroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,4-Dinitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Dimethylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,3-Dinitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,6-Dinitrotoluene	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2-Dinitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Acenaphthylene	ND	0.0088	EPA 8270/SJM	9-19-09	9-21-09	
3-Nitroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	

MW

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Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

SEMIVOLATILES by EPA 8270D/SIM  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09090959 09050759					
Laboratory ID:	09-127-05					
2,4-Dinitrophenol	ND	0.22	EPA 8270	9-19-09	9-22-09	
Acenaphthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
4-Nitrophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4-Dinitrotoluene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Dibenzofuran	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,3,5,6-Tetrachlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,3,4,6-Tetrachlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
Diethylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Chlorophenyl-phenylether	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Nitroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
Fluorene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
4,6-Dinitro-2-methylphenol	ND	0.22	EPA 8270	9-19-09	9-22-09	
N-Nitrosodiphenylamine	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2-Diphenylhydrazine	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Bromophenyl-phenylether	ND	0.044	EPA 8270	9-19-09	9-22-09	
Hexachlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Pentachlorophenol	ND	0.22	EPA 8270	9-19-09	9-22-09	
Phenanthrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Anthracene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Carbazole	ND	0.044	EPA 8270	9-19-09	9-22-09	
Di-n-butylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
Fluoranthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzidine	ND	0.44	EPA 8270	9-19-09	9-22-09	
Pyrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Butylbenzylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis-2-Ethylhexyladipate	ND	0.044	EPA 8270	9-19-09	9-22-09	
3,3'-Dichlorobenzidine	ND	0.44	EPA 8270	9-19-09	9-22-09	
Benzo[a]anthracene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Chrysene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
bis(2-Ethylhexyl)phthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
Di-n-octylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
Benzo[b]fluoranthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[k]fluoranthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[a]pyrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Indeno[1,2,3-cd]pyrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Dibenz[a,h]anthracene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[g,h,i]perylene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorophenol	50	19 - 97				
Phenol-d6	56	22 - 108				
Nitrobenzene-d5	52	21 - 106				
2-Fluorobiphenyl	62	29 - 107				
2,4,6-Tribromophenol	79	44 - 121				
Tetraphenyl-d14	72	37 - 120				

MW 10/16/09

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Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

SEMIVOLATILES by EPA 8270D/SIM  
 page 1 of 2

Matrix: Soil  
 Units: mg/Kg

09090960

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	090507001 <sup>AW</sup>					
Laboratory ID:	09-127-06					
N-Nitrosodimethylamine	ND	0.044	EPA 8270	9-19-09	9-22-09	
Pyridine	ND	0.044	EPA 8270	9-19-09	9-22-09	
Phenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
Aniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroethyl)ether	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Chlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,3-Dichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,4-Dichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Benzyl alcohol	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2-Dichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Methylphenol (o-Cresol)	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroisopropyl)ether	ND	0.044	EPA 8270	9-19-09	9-22-09	
(3,4)-Methylphenol (m,p-Cresol)	ND	0.044	EPA 8270	9-19-09	9-22-09	
N-Nitroso-di-n-propylamine	ND	0.044	EPA 8270	9-19-09	9-22-09	
Hexachloroethane	ND	0.044	EPA 8270	9-19-09	9-22-09	
Nitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Isophorone	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Nitrophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4-Dimethylphenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroethoxy)methane	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4-Dichlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2,4-Trichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Naphthalene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
4-Chloroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
Hexachlorobutadiene	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Chloro-3-methylphenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Methylnaphthalene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
1-Methylnaphthalene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Hexachlorocyclopentadiene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4,6-Trichlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,3-Dichloroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4,5-Trichlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Chloronaphthalene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Nitroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,4-Dinitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Dimethylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,3-Dinitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,6-Dinitrotoluene	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2-Dinitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Acenaphthylene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
3-Nitroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

SEMIVOLATILES by EPA 8270D/SIM  
 page 2 of 2

09090960

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09050760					
Laboratory ID:	09-127-06					
2,4-Dinitrophenol	ND	0.22	EPA 8270	9-19-09	9-22-09	
Acenaphthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
4-Nitrophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4-Dinitrotoluene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Dibenzofuran	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,3,5,6-Tetrachlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,3,4,6-Tetrachlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
Diethylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Chlorophenyl-phenylether	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Nitroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
Fluorene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
4,6-Dinitro-2-methylphenol	ND	0.22	EPA 8270	9-19-09	9-22-09	
N-Nitrosodiphenylamine	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2-Diphenylhydrazine	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Bromophenyl-phenylether	ND	0.044	EPA 8270	9-19-09	9-22-09	
Hexachlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Pentachlorophenol	ND	0.22	EPA 8270	9-19-09	9-22-09	
Phenanthrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Anthracene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Carbazole	ND	0.044	EPA 8270	9-19-09	9-22-09	
Di-n-butylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
Fluoranthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzidine	ND	0.44	EPA 8270	9-19-09	9-22-09	
Pyrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Butylbenzylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis-2-Ethylhexyladipate	ND	0.044	EPA 8270	9-19-09	9-22-09	
3,3'-Dichlorobenzidine	ND	0.44	EPA 8270	9-19-09	9-22-09	
Benzo[a]anthracene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Chrysene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
bis(2-Ethylhexyl)phthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
Di-n-octylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
Benzo[b]fluoranthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[k]fluoranthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[a]pyrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Indeno[1,2,3-cd]pyrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Dibenz[a,h]anthracene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[g,h,i]perylene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
2-Fluorophenol	51	19 - 97				
Phenol-d6	57	22 - 108				
Nitrobenzene-d5	57	21 - 106				
2-Fluorobiphenyl	64	29 - 107				
2,4,6-Tribromophenol	79	44 - 121				
Terphenyl-d14	73	37 - 120				

MW 10/1/09

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Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

## SEMIVOLATILES by EPA 8270D/SIM

page 1 of 2

Matrix: Soil  
 Units: mg/Kg

*090909/1*

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	<i>090909/1</i>					
Laboratory ID:	09-127-07					
N-Nitrosodimethylamine	ND	0.044	EPA 8270	9-19-09	9-22-09	
Pyridine	ND	0.044	EPA 8270	9-19-09	9-22-09	
Phenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
Aniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroethyl)ether	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Chlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,3-Dichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,4-Dichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Benzyl alcohol	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2-Dichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Methylphenol (o-Cresol)	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroisopropyl)ether	ND	0.044	EPA 8270	9-19-09	9-22-09	
(3+4)-Methylphenol (m,p-Cresol)	ND	0.044	EPA 8270	9-19-09	9-22-09	
N-Nitroso-di-n-propylamine	ND	0.044	EPA 8270	9-19-09	9-22-09	
Hexachloroethane	ND	0.044	EPA 8270	9-19-09	9-22-09	
Nitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Isophorone	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Nitrophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4-Dimethylphenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroethoxy)methane	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4-Dichlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2,4-Trichlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Naphthalene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
4-Chloroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
Hexachlorobutadiene	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Chloro-3-methylphenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Methylnaphthalene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
1-Methylnaphthalene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Hexachlorocyclopentadiene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4,6-Trichlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,3-Dichloroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4,5-Trichlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Chloronaphthalene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2-Nitroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,4-Dinitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Dimethylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,3-Dinitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,6-Dinitrotoluene	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2-Dinitrobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Acenaphthylene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
3-Nitroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	

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OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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*mm 10/16/09*

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

SEMIVOLATILES by EPA 8270D/SIM  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	0909061 090507611					
Laboratory ID:	09-127-07					
2,4-Dinitrophenol	ND	0.22	EPA 8270	9-19-09	9-22-09	
Acenaphthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
4-Nitrophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,4-Dinitrotoluene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Dibenzofuran	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,3,5,6-Tetrachlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
2,3,4,6-Tetrachlorophenol	ND	0.044	EPA 8270	9-19-09	9-22-09	
Diethylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Chlorophenyl-phenylether	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Nitroaniline	ND	0.044	EPA 8270	9-19-09	9-22-09	
Fluorene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
4,6-Dinitro-2-methylphenol	ND	0.22	EPA 8270	9-19-09	9-22-09	
N-Nitrosodiphenylamine	ND	0.044	EPA 8270	9-19-09	9-22-09	
1,2-Diphenylhydrazine	ND	0.044	EPA 8270	9-19-09	9-22-09	
4-Bromophenyl-phenylether	ND	0.044	EPA 8270	9-19-09	9-22-09	
Hexachlorobenzene	ND	0.044	EPA 8270	9-19-09	9-22-09	
Pentachlorophenol	ND	0.22	EPA 8270	9-19-09	9-22-09	
Phenanthrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Anthracene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Carbazole	ND	0.044	EPA 8270	9-19-09	9-22-09	
Di-n-butylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
Fluoranthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzidine	ND	0.44	EPA 8270	9-19-09	9-22-09	
Pyrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Butylbenzylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
bis-2-Ethylhexyladipate	ND	0.044	EPA 8270	9-19-09	9-22-09	
3,3'-Dichlorobenzidine	ND	0.44	EPA 8270	9-19-09	9-22-09	
Benzo[a]anthracene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Chrysene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
bis(2-Ethylhexyl)phthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
Di-n-octylphthalate	ND	0.044	EPA 8270	9-19-09	9-22-09	
Benzo[b]fluoranthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[k]fluoranthene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[a]pyrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Indeno[1,2,3-cd]pyrene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Dibenz[a,h]anthracene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[g,h,i]perylene	ND	0.0088	EPA 8270/SIM	9-19-09	9-21-09	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorophenol	37	19 - 97				
Phenol-d6	43	22 - 108				
Nitrobenzene-d5	41	21 - 106				
2-Fluorobiphenyl	48	29 - 107				
2,4,6-Tribromophenol	68	44 - 121				
Terphenyl-d14	64	37 - 120				

*M. J. H. 09*

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

SEMIVOLATILES by EPA 8270D/SIM  
 page 1 of 2

Matrix: Soil  
 Units: mg/Kg

*09090963*

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	<i>090507684</i>					
Laboratory ID:	09-127-08					
N-Nitrosodimethylamine	ND	0.042	EPA 8270	9-19-09	9-22-09	
Pyridine	ND	0.042	EPA 8270	9-19-09	9-22-09	
Phenol	ND	0.042	EPA 8270	9-19-09	9-22-09	
Aniline	ND	0.042	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroethyl)ether	ND	0.042	EPA 8270	9-19-09	9-22-09	
2-Chlorophenol	ND	0.042	EPA 8270	9-19-09	9-22-09	
1,3-Dichlorobenzene	ND	0.042	EPA 8270	9-19-09	9-22-09	
1,4-Dichlorobenzene	ND	0.042	EPA 8270	9-19-09	9-22-09	
Benzyl alcohol	ND	0.042	EPA 8270	9-19-09	9-22-09	
1,2-Dichlorobenzene	ND	0.042	EPA 8270	9-19-09	9-22-09	
2-Methylphenol (o-Cresol)	ND	0.042	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroisopropyl)ether	ND	0.042	EPA 8270	9-19-09	9-22-09	
(3+4)-Methylphenol (m,p-Cresol)	ND	0.042	EPA 8270	9-19-09	9-22-09	
N-Nitroso-di-n-propylamine	ND	0.042	EPA 8270	9-19-09	9-22-09	
Hexachloroethane	ND	0.042	EPA 8270	9-19-09	9-22-09	
Nitrobenzene	ND	0.042	EPA 8270	9-19-09	9-22-09	
Isophorone	ND	0.042	EPA 8270	9-19-09	9-22-09	
2-Nitrophenol	ND	0.042	EPA 8270	9-19-09	9-22-09	
2,4-Dimethylphenol	ND	0.042	EPA 8270	9-19-09	9-22-09	
bis(2-Chloroethoxy)methane	ND	0.042	EPA 8270	9-19-09	9-22-09	
2,4-Dichlorophenol	ND	0.042	EPA 8270	9-19-09	9-22-09	
1,2,4-Trichlorobenzene	ND	0.042	EPA 8270	9-19-09	9-22-09	
Naphthalene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
4-Chloroaniline	ND	0.042	EPA 8270	9-19-09	9-22-09	
Hexachlorobutadiene	ND	0.042	EPA 8270	9-19-09	9-22-09	
4-Chloro-3-methylphenol	ND	0.042	EPA 8270	9-19-09	9-22-09	
2-Methylnaphthalene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
1-Methylnaphthalene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
Hexachlorocyclopentadiene	ND	0.042	EPA 8270	9-19-09	9-22-09	
2,4,6-Trichlorophenol	ND	0.042	EPA 8270	9-19-09	9-22-09	
2,3-Dichloroaniline	ND	0.042	EPA 8270	9-19-09	9-22-09	
2,4,5-Trichlorophenol	ND	0.042	EPA 8270	9-19-09	9-22-09	
2-Chloronaphthalene	ND	0.042	EPA 8270	9-19-09	9-22-09	
2-Nitroaniline	ND	0.042	EPA 8270	9-19-09	9-22-09	
1,4-Dinitrobenzene	ND	0.042	EPA 8270	9-19-09	9-22-09	
Dimethylphthalate	ND	0.042	EPA 8270	9-19-09	9-22-09	
1,3-Dinitrobenzene	ND	0.042	EPA 8270	9-19-09	9-22-09	
2,6-Dinitrotoluene	ND	0.042	EPA 8270	9-19-09	9-22-09	
1,2-Dinitrobenzene	ND	0.042	EPA 8270	9-19-09	9-22-09	
Acenaphthylene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
3-Nitroaniline	ND	0.042	EPA 8270	9-19-09	9-22-09	

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*mu 10/6/09*

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

SEMIVOLATILES by EPA 8270D/SIM  
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09090963 09050763					
Laboratory ID:	09-127-08					
2,4-Dinitrophenol	ND	0.21	EPA 8270	9-19-09	9-22-09	
Acenaphthene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
4-Nitrophenol	ND	0.042	EPA 8270	9-19-09	9-22-09	
2,4-Dinitrotoluene	ND	0.042	EPA 8270	9-19-09	9-22-09	
Dibenzofuran	ND	0.042	EPA 8270	9-19-09	9-22-09	
2,3,5,6-Tetrachlorophenol	ND	0.042	EPA 8270	9-19-09	9-22-09	
2,3,4,6-Tetrachlorophenol	ND	0.042	EPA 8270	9-19-09	9-22-09	
Diethylphthalate	ND	0.042	EPA 8270	9-19-09	9-22-09	
4-Chlorophenyl-phenylether	ND	0.042	EPA 8270	9-19-09	9-22-09	
4-Nitroaniline	ND	0.042	EPA 8270	9-19-09	9-22-09	
Fluorene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
4,6-Dinitro-2-methylphenol	ND	0.21	EPA 8270	9-19-09	9-22-09	
N-Nitrosodiphenylamine	ND	0.042	EPA 8270	9-19-09	9-22-09	
1,2-Diphenylhydrazine	ND	0.042	EPA 8270	9-19-09	9-22-09	
4-Bromophenyl-phenylether	ND	0.042	EPA 8270	9-19-09	9-22-09	
Hexachlorobenzene	ND	0.042	EPA 8270	9-19-09	9-22-09	
Pentachlorophenol	ND	0.21	EPA 8270	9-19-09	9-22-09	
Phenanthrene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
Anthracene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
Carbazole	ND	0.042	EPA 8270	9-19-09	9-22-09	
Di-n-butylphthalate	ND	0.042	EPA 8270	9-19-09	9-22-09	
Fluoranthene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
Benzidine	ND	0.42	EPA 8270	9-19-09	9-22-09	
Pyrene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
Butylbenzylphthalate	ND	0.042	EPA 8270	9-19-09	9-22-09	
bis(2-Ethylhexyl)adipate	ND	0.042	EPA 8270	9-19-09	9-22-09	
3,3'-Dichlorobenzidine	ND	0.42	EPA 8270	9-19-09	9-22-09	
Benzo[a]anthracene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
Chrysene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
bis(2-Ethylhexyl)phthalate	ND	0.042	EPA 8270	9-19-09	9-22-09	
Di-n-octylphthalate	ND	0.042	EPA 8270	9-19-09	9-22-09	
Benzo[b]fluoranthene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[k]fluoranthene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[a]pyrene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
Indeno[1,2,3-cd]pyrene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
Dibenz[a,h]anthracene	ND	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
Benzo[g,h,i]perylene	ND/NW	0.0083	EPA 8270/SIM	9-19-09	9-21-09	
<b>Surrogate:</b>	<b>Percent Recovery</b>	<b>Control Limits</b>				
2-Fluorophenol	41	19 - 97				
Phenol-d6	45	22 - 108				
Nitrobenzene-d5	44	21 - 106				
2-Fluorobiphenyl	51	29 - 107				
2,4,6-Tribromophenol	71	44 - 121				
Terphenyl-d14	69	37 - 120				

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-8881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.



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720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: October 14, 2009

TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**

REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 10 soil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington, has been completed. Semivolatile Organic Compound (SVOC) analysis (EPA Method 8270) and synthetic precipitation leaching procedure (SPLP) SVOC analysis was performed by OnSite Environmental, Inc., Redmond, Washington.

The samples were numbered:

09090908	09090909	09090912	09090913	09090915
09090919	09090927	09090953	09090954	09090962

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on September 10, 2009, were extracted by September 18, 2009, and were analyzed by September 19, 2009, therefore meeting holding time criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis.

#### 2. Tuning: Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. Initial Calibration: Satisfactory.

All average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All Relative Standard Deviations (RSDs) were less than the QC limit of 30% except 2,4-dinitrophenol in the 9-14-09 calibration and 2,4-dinitrophenol and benzidine in the 9-18-09 calibration; associated positive results were qualified as estimated quantities (J).

#### 4. Continuing Calibration: Satisfactory.

All RRFs were greater than the QC limit of 0.050. All % differences were less than the QC limit of 25 % except hexachlorocyclopentadiene, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, benzidine (all with low recoveries), and 3,3-dichlorobenzidine (high recovery) in the 9-19-09 calibration, benzidine and

3,3'-dichlorobenzidine in the 9-21-09 calibration, and 2,4-dinitrophenol and hexachlorocyclopentadiene (low recoveries) in the 9-23-09 calibration. Associated positive results and sample quantitation limits were qualified as estimated quantities (J or UJ) for analytes associated with decreasing response factors. Positive results associated with high recovery outliers were qualified as estimated quantities (J).

**5. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs): Satisfactory.**

All SMC recoveries were within QC limits except one base/neutral SMC with a high recovery in sample 09090927; no action was taken based on one outlier per fraction per sample.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD)/Blank Spike (BS) Analysis: Acceptable.**

All spike analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within the QC limits.

**8. Duplicate Analysis: Acceptable.**

Spike duplicate analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**9. Internal Standards: Satisfactory.**

All internal standards (IS) were within  $\pm 30$  seconds of the continuing calibration IS retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts except the last two IS compounds in sample 09090927 with low area counts; associated positive sample results and sample quantitation limits were qualified as estimated quantities (J or UJ).

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the site-specific sampling plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

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

- R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Date of Report: September 29, 2009  
 Samples Submitted: September 11, 2009  
 Laboratory Reference: 0909-103  
 Project: 10HD-09/10/09-0005

SEMIVOLATILES by EPA 8270D/SIM  
 page 1 of 2

Matrix: Soil  
 Units: mg/Kg

*0909102*

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	69058702					
Laboratory ID:	09-103-12					
N-Nitrosodimethylamine	ND	0.035	EPA 8270	9-15-09	9-17-09	
Pyridine	ND	0.035	EPA 8270	9-15-09	9-17-09	
Phenol	ND	0.035	EPA 8270	9-15-09	9-17-09	
Aniline	ND	0.035	EPA 8270	9-15-09	9-17-09	
bis(2-Chloroethyl)ether	ND	0.035	EPA 8270	9-15-09	9-17-09	
2-Chlorophenol	ND	0.035	EPA 8270	9-15-09	9-17-09	
1,3-Dichlorobenzene	ND	0.035	EPA 8270	9-15-09	9-17-09	
1,4-Dichlorobenzene	ND	0.035	EPA 8270	9-15-09	9-17-09	
Benzyl alcohol	ND	0.035	EPA 8270	9-15-09	9-17-09	
1,2-Dichlorobenzene	ND	0.035	EPA 8270	9-15-09	9-17-09	
2-Methylphenol (o-Cresol)	ND	0.035	EPA 8270	9-15-09	9-17-09	
bis(2-Chloroisopropyl)ether	ND	0.035	EPA 8270	9-15-09	9-17-09	
(3+4)-Methylphenol (m,p-Cresol)	ND	0.035	EPA 8270	9-15-09	9-17-09	
N-Nitroso-di-n-propylamine	ND	0.035	EPA 8270	9-15-09	9-17-09	
Hexachloroethane	ND	0.035	EPA 8270	9-15-09	9-17-09	
Nitrobenzene	ND	0.035	EPA 8270	9-15-09	9-17-09	
Isophorone	ND	0.035	EPA 8270	9-15-09	9-17-09	
2-Nitrophenol	ND	0.035	EPA 8270	9-15-09	9-17-09	
2,4-Dimethylphenol	ND	0.035	EPA 8270	9-15-09	9-17-09	
bis(2-Chloroethoxy)methane	ND	0.035	EPA 8270	9-15-09	9-17-09	
2,4-Dichlorophenol	ND	0.035	EPA 8270	9-15-09	9-17-09	
1,2,4-Trichlorobenzene	ND	0.035	EPA 8270	9-15-09	9-17-09	
Naphthalene	ND	0.0069	EPA 8270/SIM	9-15-09	9-15-09	
4-Chloroaniline	ND	0.035	EPA 8270	9-15-09	9-17-09	
Hexachlorobutadiene	ND	0.035	EPA 8270	9-15-09	9-17-09	
4-Chloro-3-methylphenol	ND	0.035	EPA 8270	9-15-09	9-17-09	
2-Methylnaphthalene	ND	0.0069	EPA 8270/SIM	9-15-09	9-15-09	
1-Methylnaphthalene	ND	0.0069	EPA 8270/SIM	9-15-09	9-15-09	
Hexachlorocyclopentadiene	ND	0.035	EPA 8270	9-15-09	9-17-09	
2,4,6-Trichlorophenol	ND	0.035	EPA 8270	9-15-09	9-17-09	
2,3-Dichloroaniline	ND	0.035	EPA 8270	9-15-09	9-17-09	
2,4,5-Trichlorophenol	ND	0.035	EPA 8270	9-15-09	9-17-09	
2-Chloronaphthalene	ND	0.035	EPA 8270	9-15-09	9-17-09	
2-Nitroaniline	ND	0.035	EPA 8270	9-15-09	9-17-09	
1,4-Dinitrobenzene	ND	0.035	EPA 8270	9-15-09	9-17-09	
Dimethylphthalate	ND	0.035	EPA 8270	9-15-09	9-17-09	
1,3-Dinitrobenzene	ND	0.035	EPA 8270	9-15-09	9-17-09	
2,6-Dinitrotoluene	ND	0.035	EPA 8270	9-15-09	9-17-09	
1,2-Dinitrobenzene	ND	0.035	EPA 8270	9-15-09	9-17-09	
Acenaphthylene	0.023	0.0069	EPA 8270/SIM	9-15-09	9-15-09	
3-Nitroaniline	ND	0.035	EPA 8270	9-15-09	9-17-09	

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Date of Report: September 29, 2009  
 Samples Submitted: September 11, 2009  
 Laboratory Reference: 0909-103  
 Project: 10HD-09/10/09-0005

SEMIVOLATILES by EPA 8270D/SIM  
 page 2 of 2

09090912

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	99050762 <i>MW</i>					
Laboratory ID:	09-103-12					
2,4-Dinitrophenol	ND <i>MW</i>	0.17 <i>U</i>	EPA 8270	9-15-09	9-17-09	
Acenaphthene	0.0082	0.0069	EPA 8270/SIM	9-15-09	9-15-09	
4-Nitrophenol	ND	0.035 <i>U</i>	EPA 8270	9-15-09	9-17-09	
2,4-Dinitrotoluene	ND	0.035	EPA 8270	9-15-09	9-17-09	
Dibenzofuran	ND	0.035	EPA 8270	9-15-09	9-17-09	
2,3,5,6-Tetrachlorophenol	ND	0.035	EPA 8270	9-15-09	9-17-09	
2,3,4,6-Tetrachlorophenol	ND	0.035	EPA 8270	9-15-09	9-17-09	
Diethylphthalate	ND	0.035	EPA 8270	9-15-09	9-17-09	
4-Chlorophenyl-phenylether	ND	0.035	EPA 8270	9-15-09	9-17-09	
4-Nitroaniline	ND <i>MW</i>	0.035	EPA 8270	9-15-09	9-17-09	
Fluorene	0.0087	0.0069	EPA 8270/SIM	9-15-09	9-15-09	
4,6-Dinitro-2-methylphenol	ND	0.17 <i>U</i>	EPA 8270	9-15-09	9-17-09	
N-Nitrosodiphenylamine	ND	0.035	EPA 8270	9-15-09	9-17-09	
1,2-Diphenylhydrazine	ND	0.035	EPA 8270	9-15-09	9-17-09	
4-Bromophenyl-phenylether	ND	0.035	EPA 8270	9-15-09	9-17-09	
Hexachlorobenzene	ND	0.035	EPA 8270	9-15-09	9-17-09	
Pentachlorophenol	ND <i>MW</i>	0.17 <i>U</i>	EPA 8270	9-15-09	9-17-09	
Phenanthrene	0.16	0.035	EPA 8270	9-15-09	9-17-09	
Anthracene	0.051	0.035	EPA 8270	9-15-09	9-17-09	
Carbazole	0.038	0.035	EPA 8270	9-15-09	9-17-09	
Di-n-butylphthalate	1.3	0.035	EPA 8270	9-15-09	9-17-09	
Fluoranthene	0.44	0.035	EPA 8270	9-15-09	9-17-09	
Benzidine	ND <i>MW</i>	0.35 <i>U</i>	EPA 8270	9-15-09	9-17-09	
Pyrene	0.27	0.035	EPA 8270	9-15-09	9-17-09	
Butylbenzylphthalate	ND	0.035 <i>U</i>	EPA 8270	9-15-09	9-17-09	
bis-2-Ethylhexyladipate	ND	0.035	EPA 8270	9-15-09	9-17-09	
3,3'-Dichlorobenzidine	ND <i>MW</i>	0.35 <i>U</i>	EPA 8270	9-15-09	9-17-09	
Benzo[a]anthracene	0.20	0.035	EPA 8270	9-15-09	9-17-09	
Chrysene	0.26	0.035	EPA 8270	9-15-09	9-17-09	
bis(2-Ethylhexyl)phthalate	4.8	0.69	EPA 8270	9-15-09	9-19-09	
Di-n-octylphthalate	ND <i>MW</i>	0.035 <i>U</i>	EPA 8270	9-15-09	9-17-09	
Benzo[b]fluoranthene	0.22	0.035	EPA 8270	9-15-09	9-17-09	
Benzo[k]fluoranthene	0.18	0.035	EPA 8270	9-15-09	9-17-09	
Benzo[a]pyrene	0.18	0.035	EPA 8270	9-15-09	9-17-09	
Indeno[1,2,3-cd]pyrene	0.095	0.035	EPA 8270	9-15-09	9-17-09	
Dibenz[a,h]anthracene	0.033	0.0069	EPA 8270/SIM	9-15-09	9-15-09	
Benzo[g,h,i]perylene	0.10	0.035	EPA 8270	9-15-09	9-17-09	
<b>Surrogate:</b>	<b>Percent Recovery</b>	<b>Control Limits</b>				
2-Fluorophenol	57	19 - 97				
Phenol-d6	76	22 - 108				
Nitrobenzene-d5	59	21 - 106				
2-Fluorobiphenyl	78	29 - 107				
2,4,6-Tribromophenol	81	44 - 121				
Terphenyl-d14	73	37 - 120				

*MW*  
10/4/09

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## MEMORANDUM

DATE: October 14, 2009

TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**

REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 7 soil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington, has been completed. Analysis for Extended Diesel Range Total Petroleum Hydrocarbons (Ecology Method NWTPH-Dx) was performed by OnSite Environmental, Inc., Redmond, Washington. The samples were numbered:

09090941	09090942	09090943	09090944	09090956
09090957	09090958			

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were maintained at 4°C ( $\pm$  2°C). The samples were collected on September 9, 2009, extracted by September 15, 2009, and analyzed by September 15, 2009, therefore meeting QC criteria of less than 14 days between collection and extraction for soil samples and less than 40 days between extraction and analysis.

#### 2. **Initial Calibration: Acceptable.**

Calculations were verified as correct. All correlation coefficients were greater than or equal to 0.995.

#### 3. **Continuing Calibration: Acceptable.**

Calculations were verified as correct. All applicable percent differences (%Ds) were  $\leq$  the laboratory control limits of 15%.

#### 4. **Error Determination: Not Performed.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

**5. Blanks: Acceptable.**

A method blank was analyzed for each extraction batch for each matrix and analysis system. Diesel- and motor oil-range TPHs were not detected in any blank.

**6. System Monitoring Compounds (SMC): Acceptable.**

All recoveries of the SMCs were greater than 10% and within QC criteria except when diluted out due to high analyte concentrations in the sample.

**7. Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**8. Duplicates: Acceptable.**

Duplicate results were acceptable.

**9. Quantitation and Quantitation Limits: Acceptable.**

Sample concentrations were correctly calculated.

**10. Laboratory Contact: Not Required.**

No laboratory contact was required.

**11. Overall Assessment of Data for Use**

Diesel range organics in samples 09090941, 09090943 and 09090958 interfered with the lube oil results; the lube oil results in these samples were qualified as estimated quantities (J).

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

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

## NWTPH-Dx

Date Extracted: 9-11-09  
 Date Analyzed: 9-11&14-09

Matrix: Soil  
 Units: mg/kg (ppm)

	<i>09090941</i>	<i>09090942</i>	<i>09090943</i>
Client ID:	<del>9050741</del>	<del>9050742</del>	<del>9050743</del> <i>MM</i>
Lab ID:	09-091-01	09-091-02	09-091-03

Diesel Range:	49000	<del>ND</del> <i>U</i>	230
PQL:	620	30 <i>U</i>	29
Identification:	Diesel Range Organics	---	Diesel Range Organics

Lube Oil Range:	47000 <i>J</i>	60	160 <i>J</i>
PQL:	1200	60	57
Identification:	Lube Oil	Lube Oil	Lube Oil

Surrogate Recovery o-Terphenyl:	---	62%	58%
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Flags:	<del>Y,N,I,S</del>	Y	<del>Y,N,I,S</del> <i>MM</i>
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*MM 10/14/09*

OnSite Environmental, Inc. 14848 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 25, 2009  
 Samples Submitted: September 10, 2009  
 Laboratory Reference: 0909-091  
 Project: 10HD-09/09/09-0003

## NWTPH-Dx

Date Extracted: 9-11&15-09  
 Date Analyzed: 9-11,14&15-09

Matrix: Soil  
 Units: mg/kg (ppm)

	<i>09090944</i>	<i>09090956</i>	<i>09090957</i>
Client ID:	<del>9050744</del>	<del>9050756</del>	<del>9050757</del> <i>mu</i>
Lab ID:	09-091-04	09-091-07	09-091-08

Diesel Range:	<del>NDM</del>	<del>NDM</del>	<del>NDM</del>
PQL:	31 <i>U</i>	39 <i>U</i>	40 <i>U</i>

Identification: ---

Lube Oil Range:	<del>NDM</del>	210	110
PQL:	61 <i>U</i>	78	81

Identification: --- Lube Oil Lube Oil

Surrogate Recovery o-Terphenyl:	73%	65%	65%
------------------------------------	-----	-----	-----

Flags: ~~YMM~~ ~~YMM~~ ~~YMM~~

*MW*  
*10/14/09*

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This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 25, 2009  
Samples Submitted: September 10, 2009  
Laboratory Reference: 0909-091  
Project: 10HD-09/09/09-0003

## NWTPH-Dx

Date Extracted: 9-11-09  
Date Analyzed: 9-14-09

Matrix: Soil  
Units: mg/kg (ppm)

Client ID: *09090958*  
*9050758 JW*  
Lab ID: 09-091-09

Diesel Range: 20000  
PQL: 1300

Identification: Diesel Range Organics

Lube Oil Range: 24000 *J*  
PQL: 2700

Identification: Lube Oil

Surrogate Recovery  
o-Terphenyl: ---

Flags: ~~VNLS~~ *JW*

*MW*  
*10/14/09*  
OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

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720 Third Avenue, Suite 1700, Seattle, WA 98104  
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## MEMORANDUM

DATE: October 16, 2009

TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**

REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 8 soil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington, has been completed. Analysis for Extended Diesel Range Total Petroleum Hydrocarbons (Ecology Method NWTPH-Dx) was performed by OnSite Environmental, Inc., Redmond, Washington. The samples were numbered:

09090902	09090903	09090916	09090917	09090959
09090960	09090961	<u>07090963</u>		

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

**1. Sample Holding Times: Acceptable.**

The samples were maintained at 4°C ( $\pm 2^\circ\text{C}$ ). The samples were collected on September 10, 2009, extracted by September 17, 2009, and analyzed by September 17, 2009, therefore meeting QC criteria of less than 14 days between collection and extraction for soil samples and less than 40 days between extraction and analysis.

**2. Initial Calibration: Acceptable.**

Calculations were verified as correct. All correlation coefficients were greater than or equal to 0.995.

**3. Continuing Calibration: Acceptable.**

Calculations were verified as correct. All applicable percent differences (%Ds) were  $\leq$  the laboratory control limits of 15%.

**4. Error Determination: Not Performed.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

**5. Blanks: Acceptable.**

A method blank was analyzed for each extraction batch for each matrix and analysis system. Diesel- and motor oil-range TPHs were not detected in any blank.

**6. System Monitoring Compounds (SMC): Acceptable.**

All recoveries of the SMCs were greater than 10% and within QC criteria except when diluted out due to high analyte concentrations in the sample.

**7. Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**8. Matrix and Blank Spikes: Acceptable.**

Applicable matrix and blank spike results were within QC limits.

**9. Duplicates: Acceptable.**

Duplicate results were acceptable.

**10. Quantitation and Quantitation Limits: Acceptable.**

Sample concentrations were correctly calculated.

**11. Laboratory Contact: Not Required.**

No laboratory contact was required.

**12. Overall Assessment of Data for Use**

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

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

## NWTPH-Dx

Date Extracted: 9-17-09  
 Date Analyzed: 9-17-09

Matrix: Soil  
 Units: mg/kg (ppm)

Client ID:

Lab ID:

<del>9050717</del>	<del>9050759</del>	<del>9050760</del>
09090917	09090959	09090960
09-127-04	09-127-05	09-127-06

Diesel Range:

PQL:

Identification:

<del>ND</del>	<del>ND</del>	<del>ND</del>
28 ✓	33 ✓	33 ✓
---	---	---

Lube Oil Range:

PQL:

Identification:

62	<del>ND</del>	<del>ND</del>
56	66 ✓	66 ✓
Lube Oil	---	---

Surrogate Recovery

o-Terphenyl:

90%	73%	82%
-----	-----	-----

Flags:

Y	Y	Y
---	---	---

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,  
 and is intended only for the use of the individual or company to whom it is addressed.

*MW* 10/1/09

Date of Report: October 1, 2009  
 Samples Submitted: September 15, 2009  
 Laboratory Reference: 0909-127  
 Project: 10HD-09/10/09-0007

## NWTPH-Dx

Date Extracted: 9-17-09  
 Date Analyzed: 9-17-09

Matrix: Soil  
 Units: mg/kg (ppm)

Client ID: ~~9050761~~ ~~9050763~~ *9090961* *9090963*  
 Lab ID: 09-127-07 09-127-08

Diesel Range: ~~ND~~ ~~ND~~  
 PQL: 33 *U* 31 *U*  
 Identification: -- --

Lube Oil Range: ~~ND~~ ~~ND~~  
 PQL: 66 *U* 63 *U*  
 Identification: -- --

Surrogate Recovery  
 o-Terphenyl: 86% 77%

Flags: Y Y

*MW [Signature]*



# ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: October 14, 2009  
TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR  
FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*  
SUBJ: **Organic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**  
REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 7 soil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington, has been completed. Analysis for Extended Diesel Range Total Petroleum Hydrocarbons (Ecology Method NWTPH-Dx) was performed by OnSite Environmental, Inc., Redmond, Washington. The samples were numbered:

09090912	09090913	09090915	09090927
09090953	09090954	09090962	

Incorrect sample numbers were provided to the laboratory and were listed on the sample result sheets. The data reviewer corrected the sample numbers to match those listed above.

### Data Qualifications:

**1. Sample Holding Times: Acceptable.**

The samples were maintained at 4°C (+ 2°C). The samples were collected on September 10, 2009, extracted by September 15, 2009, and analyzed by September 15, 2009, therefore meeting QC criteria of less than 14 days between collection and extraction for soil samples and less than 40 days between extraction and analysis.

**2. Initial Calibration: Acceptable.**

Calculations were verified as correct. All correlation coefficients were greater than or equal to 0.995.

**3. Continuing Calibration: Acceptable.**

Calculations were verified as correct. All applicable percent differences (%Ds) were ≤ the laboratory control limits of 15%.

**4. Error Determination: Not Performed.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form Ts.

**5. Blanks: Acceptable.**

A method blank was analyzed for each extraction batch for each matrix and analysis system. Diesel- and motor oil-range TPHs were not detected in any blank.

**6. System Monitoring Compounds (SMC): Acceptable.**

All recoveries of the SMCs were greater than 10% and within QC criteria except when diluted out due to high analyte concentrations in the sample.

**7. Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**8. Duplicates: Acceptable.**

Duplicate results were acceptable.

**9. Quantitation and Quantitation Limits: Acceptable.**

Sample concentrations were correctly calculated.

**10. Laboratory Contact: Not Required.**

No laboratory contact was required.

**11. Overall Assessment of Data for Use**

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

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- R - The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.

---

- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Date of Report: September 29, 2009  
Samples Submitted: September 11, 2009  
Laboratory Reference: 0909-103  
Project: 10HD-09/10/09-0005

NWTPH-Dx

Date Extracted: 9-14-09  
Date Analyzed: 9-14-09

Matrix: Soil  
Units: mg/kg (ppm)

Client ID: *09090002*  
~~8050762~~  
Lab ID: 09-103-12

Diesel Range: ~~ND~~ *MM*  
PQL: 46 *U*  
Identification: ---

Lube Oil Range: 440  
PQL: 52  
Identification: Lube Oil

Surrogate Recovery  
o-Terphenyl: 74%

Flags: *X, U, MM*

*MM 10/14/09*



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International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: November 30, 2009

TO: Josh Hancock, START-3 Project Manager, E & E, Seattle, WA

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, WA *MW*

SUBJ: **Data Quality Assurance Review, Stubblefield Salvage Removal Oversight Site, Walla Walla, Washington**

REF: TDD: 09-09-0010 PAN: 002233.0493.01RA

The data quality assurance review of 20 air filter samples collected from the Stubblefield Salvage Removal Oversight site in Walla Walla, Washington, has been completed. Asbestos analyses using phase contrast microscopy (NIOSH method 7400) were performed by Lab/Cor, Inc., Seattle, Washington.

The samples were numbered:

09101001	09101002	09101003	09101004	09101005
09101029	09101030	09101031	09101032	09101033
09101034	09101035	09101036	09101037	09101038
09101039	09101040	09101044	09101045	09101046

### Data Qualifications:

The samples were collected between October 14 and 20, 2009, were received at the laboratory on October 21, 2009, and were analyzed by October 23, 2009. No discrepancies were noted in the laboratory case narrative.

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

**NIOSH 7400 - PCM**

Job Number: 092566      SEA  
Client: Ecology & Environment  
Project Name: 10HD

Report Number: 092566R02  
Date Received: 10/21/2009

Analyst: DW    11/13/2009

Lab/Cor Sample No.	Client Sample No.	Description	Volume □ (L)	<sup>1</sup> Total Adj. Fibers	Total Fields	<sup>3</sup> Density (Fibers/mm <sup>2</sup> )	Concentration (Fibers/cc)	95% Confidence Interval (LCL - UCL)	<sup>2</sup> LOD (Fibers/cc)
S1	09101001	Asbestos PCM	978.8	0	100	< 7.0	< 0.003	0 - 0.002	0.003
S2	09101002	Asbestos PCM	968.82	0	100	< 7.0	< 0.003	0 - 0.002	0.003
S3	09101003	Asbestos PCM	310.08	1	100	< 7.0	< 0.009	0 - 0.009	0.009
S4	09101004	Asbestos PCM	972.02	0	100	< 7.0	< 0.003	0 - 0.002	0.003
S5	09101005	Asbestos PCM	0	2	100	< 7.0			
S6	09101029	Asbestos PCM	240	0	100	< 7.0	< 0.011	0 - 0.008	0.011
S7	09101030	Asbestos PCM	1128.6	1	100	< 7.0	< 0.002	0 - 0.002	0.002
S8	09101031	Asbestos PCM	1144.4	0	100	< 7.0	< 0.002	0 - 0.002	0.002
S9	09101032	Asbestos PCM	1131.2	0.5	100	< 7.0	< 0.002	0 - 0.002	0.002
S10	09101033	Asbestos PCM	1090.1	0	100	< 7.0	< 0.002	0 - 0.002	0.002
S11	09101034	Asbestos PCM	137.02	0	100	< 7.0	< 0.02	0 - 0.013	0.02
S12	09101035	Asbestos PCM	1085.4	0	100	< 7.0	< 0.002	0 - 0.002	0.002
S13	09101036	Asbestos PCM	1036.6	0	100	< 7.0	< 0.003	0 - 0.002	0.003
S14	09101037	Asbestos PCM	824.06	0	100	< 7.0	< 0.003	0 - 0.002	0.003
S15	09101038	Asbestos PCM	822.05	0	100	< 7.0	< 0.003	0 - 0.002	0.003
S16	09101039	Asbestos PCM	824.14	2	100	< 7.0	< 0.003	0 - 0.004	0.003
S17	09101040	Asbestos PCM	34.17	0	100	< 7.0	< 0.079	0 - 0.053	0.079
S18	09101044	Asbestos PCM	913.73	3	100	< 7.0	< 0.003	0 - 0.005	0.003
S19	09101045	Asbestos PCM	907.48	5	100	< 7.0	< 0.003	0.001 - 0.006	0.003

Analytical Sensitivity = (((Total Adj Fibers) \* (Filter Area)) / (Number of Fields \* Field Area \* Volume \* 1000))

<sup>1</sup> Net fiber counts after average blank count reduction.

<sup>2</sup> LOD is calculated based on 5.5 fib/ 100 fields as referenced in NIOSH 7402 Method.

<sup>3</sup> Density is reported as <7.0 fib/mm<sup>2</sup> when the Total Fiber Cnt. - Avg. Blank Fiber Cnt. is <5.5 fibers

*MW*  
*11-30-09*



**Lab/Cor, Inc.**

7619 6th Ave NW  
Seattle, WA 98117

**Final Report**

Phone: (206) 781-0155

Fax: (206) 789-8424

http://www.labcor.net

*A Professional Service Corporation in the Northwest*

**NIOSH 7400 - PCM**

Job Number: 092566      SEA  
Client: Ecology & Environment

Report Number: 092566R02  
Date Received: 10/21/2009

Project Name: 10HD

Lab/Cor Sample No.	Client Sample No.	Description	Volume (L)	<sup>1</sup> Total Adj. Fibers	Total Fields	<sup>3</sup> Density (Fibers/mm <sup>2</sup> )	Concentration (Fibers/cc)	95% Confidence Interval (LCL - UCL)	<sup>2</sup> LOD (Fibers/cc)
S20	09101046	Asbestos PCM	898.95	2.5	100	< 7.0 ✓	< 0.003 ✓	0 - 0.004	0.003

**Reviewed by:**

*[Signature]*  
 Derk Wipprecht  
 Laboratory Supervisor

Analytical Sensitivity =  $\frac{((\text{Total Adj Fibers}) * (\text{Filter Area}))}{(\text{Number of Fields} * \text{Field Area} * \text{Volume} * 1000)}$

<sup>1</sup> Net fiber counts after average blank count reduction.

<sup>2</sup> LOD is calculated based on 5.5 fib/ 100 fields as referenced in NIOSH 7402 Method.

<sup>3</sup> Density is reported as <7.0 fib/mm<sup>2</sup> when the Total Fiber Cnt. - Avg. Blank Fiber Cnt. is <5.5 fibers

*SMW*  
*11-30-09*



# ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104

Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: October 30, 2009

TO: Ryan Whitchurch, START-3 Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review,  
Stubblefield Salvage Site, Walla Walla, Washington**

REF: TDD: 09-05-0006 PAN: 002233.0458.01SF

The data quality assurance review of 4 soil and 11 oil samples collected from the Stubblefield Salvage site located in Walla Walla, Washington, has been completed. Analysis for Polychlorinated Biphenyls (PCBs - EPA Method 8082) was performed by OnSite Environmental, Inc., Redmond, Washington.

The samples were numbered:

09101006	09101007	09101008	09101009	09101010
09101011	09101012	09101013	09101014	09101015
09101016	09101017	09101018	09101019	09101020

### Data Qualifications:

**1. Sample Holding Times: Acceptable.**

The samples were maintained at 4°C ( $\pm 2^\circ\text{C}$ ). The samples were collected on October 15, 2009, extracted by October 16, 2009, and were analyzed by October 16, 2009, therefore meeting QC criteria of less than 14 days between collection and soil sample extraction and less than 40 days between extraction and analysis; soil holding times were used in the absence of oil QC criteria.

**2. Instrument Performance: Acceptable.**

The surrogate retention time percent difference between the initial calibration standards and the remaining standards and samples was  $\leq 0.3\%$  for capillary column analyses.

**3. Initial and Continuing Calibration: Acceptable.**

All initial calibration relative standard deviations (RSDs) were less than 15% on at least one column. All continuing calibration % differences (% D) were less than 15% on at least one column and were within QC limits.

**4. Error Determination: Not Provided.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

**5. Blanks: Acceptable.**

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and for each concentration level, or every 20 samples, whichever is greater, and for each analytical system. No target analytes were detected in any blanks.

**6. Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**7. System Monitoring Compounds (SMCs): Acceptable.**

All recoveries of the SMCs were within the established control limits.

**8. Matrix and Blank Spikes: Acceptable.**

Recoveries of all spiked analytes were within the appropriate control limits.

**9. Duplicates: Acceptable.**

Relative Percent Differences (RPDs) of all spiked analytes were within the required control limits.

**10. Compound Identification: Acceptable.**

Positive sample results with percent differences between the columns greater than 25% were qualified as estimated quantities (J).

**11. Target Compound Quantitation and Quantitation Limits: Acceptable.**

Sample results and quantitation limits were correctly calculated.

**12. Laboratory Contact**

No laboratory contact was required.

**13. Overall Assessment**

The overall usefulness of the data is based on the criteria outlined in the site-specific sampling plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- N - The analysis indicates the present of an analyte for which there is presumptive evidence to make a "tentative identification".
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Date of Report: October 19, 2009  
 Samples Submitted: October 16, 2009  
 Lab Traveler: 0910-130  
 Project: 10HD-10/15/09-0002

PCBs by EPA 8082

Matrix: Oil  
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>09101006</b>					
Laboratory ID:	10-130-01					
Aroclor 1016	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	4.8	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	70	33-113				
<b>Client ID:</b>	<b>09101007</b>					
Laboratory ID:	10-130-02					
Aroclor 1016	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	15	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	7.6	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	4.8	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	71	33-113				
<b>Client ID:</b>	<b>09101008</b>					
Laboratory ID:	10-130-03					
Aroclor 1016	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	4.9	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	81	33-113				

*MW 10-30-09*

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA. 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 19, 2009  
 Samples Submitted: October 16, 2009  
 Lab Traveler: 0910-130  
 Project: 10HD-10/15/09-0002

**PCBs by EPA 8082**

Matrix: Oil  
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>09101009</b>					
Laboratory ID:	10-130-04					
Aroclor 1016	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	4.9	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	58	33-113				
<b>Client ID:</b>	<b>09101010</b>					
Laboratory ID:	10-130-05					
Aroclor 1016	ND	5.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	5.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	5.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	13	5.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	5.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	ND	5.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	5.0	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	67	33-113				
<b>Client ID:</b>	<b>09101011</b>					
Laboratory ID:	10-130-06					
Aroclor 1016	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	4.8	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	73	33-113				

*MW1030-09*

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 19, 2009  
 Samples Submitted: October 16, 2009  
 Lab Traveler: 0910-130  
 Project: 10HD-10/15/09-0002

### PCBs by EPA 8082

Matrix: Oil  
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>09101012</b>					
Laboratory ID:	10-130-07					
Aroclor 1016	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	11	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	4.8	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	67	33-113				
<b>Client ID:</b>	<b>09101013</b>					
Laboratory ID:	10-130-08					
Aroclor 1016	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	4.8	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	60	33-113				
<b>Client ID:</b>	<b>09101014</b>					
Laboratory ID:	10-130-09					
Aroclor 1016	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	4.8	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	71	33-113				

AMW 10/30/09

OnSite Environmental, Inc. 14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 19, 2009  
 Samples Submitted: October 16, 2009  
 Lab Traveler: 0910-130  
 Project: 10HD-10/15/09-0002

### PCBs by EPA 8082

Matrix: Oil  
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>09101019</b>					
Laboratory ID:	10-130-14					
Aroclor 1016	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	ND	4.8	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	4.8	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	71	33-113				
<b>Client ID:</b>	<b>09101020</b>					
Laboratory ID:	10-130-15					
Aroclor 1016	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	ND	4.9	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	4.9	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	70	33-113				

*M. M. 10-30-09*

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This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 19, 2009  
 Samples Submitted: October 16, 2009  
 Lab Traveler: 0910-130  
 Project: 10HD-10/15/09-0002

## PCBs by EPA 8082

Matrix: Soil  
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
<b>Client ID:</b>	<b>09101015</b>					
<b>Laboratory ID:</b>	10-130-10					
Aroclor 1016	ND	0.22	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	0.22	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	0.22	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	0.96	0.22	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	0.22	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	2.9	0.22	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	0.22	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	69	33-122				
<b>Client ID:</b>	<b>09101016</b>					
<b>Laboratory ID:</b>	10-130-11					
Aroclor 1016	ND	2.6	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	2.6	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	2.6	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	11	2.6	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	2.6	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	4.2	2.6	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	2.6	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	80	33-122				
<b>Client ID:</b>	<b>09101017</b>					
<b>Laboratory ID:</b>	10-130-12					
Aroclor 1016	ND	2.2	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	2.2	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	2.2	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	11	2.2	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	2.2	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	17	2.2	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	2.2	EPA 8082	10-16-09	10-16-09	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCB	100	33-122				

MMW  
10/30/09

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Date of Report: October 19, 2009  
 Samples Submitted: October 16, 2009  
 Lab Traveler: 0910-130  
 Project: 10HD-10/15/09-0002

PCBs by EPA 8082

Matrix: Soil  
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	09101018					
Laboratory ID:	10-130-13					
Aroclor 1016	ND	2.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1221	ND	2.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1232	ND	2.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1242	3.4	2.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1248	ND	2.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1254	5.6	2.0	EPA 8082	10-16-09	10-16-09	
Aroclor 1260	ND	2.0	EPA 8082	10-16-09	10-16-09	
Surrogate:	Percent Recovery	Control Limits				
DCB	80	33-122				

*JM 10/20/09*

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# ecology and environment, inc.

Global Environmental Specialists

720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: April 20, 2012

TO: Jake Moersen, Project Manager, E & E, Seattle, Washington

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Stubblefield Salvage Drum Removal Site, Walla Walla, Washington**

REF: TDD: 11-11-0003 PAN: 002233.0727.01RA

The data quality assurance review of six waste samples collected from the Stubblefield salvage Drum Removal site located in Walla Walla, Washington, has been completed. Analysis for Polychlorinated Biphenyls (PCBs - EPA Method 8082) was performed by TestAmerica Seattle, Washington. All sample analyses were evaluated following EPA's Stage 2 and 4 Data Validation Electronic/Manual Process (S4VEM).

The samples were numbered:

042012-0001 042012-0002 042012-0003 042012-0004 042012-0005 042012-0006

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were maintained and received within the QC limits of  $< 6^{\circ}\text{C}$ . The samples were collected on April 11, 2012, and were extracted and analyzed by April 17, 2012, therefore meeting QC criteria of less than 14 days between collection and soil sample extraction and less than 40 days between extraction and analysis. Soil criteria were used in the absence of waste matrix criteria.

#### 2. **Instrument Performance: Acceptable.**

The surrogate retention time percent difference between the initial calibration standards and the remaining standards and samples was  $\leq 0.3\%$  for capillary column analyses.

#### 3. **Initial and Continuing Calibration: Satisfactory.**

All initial calibration relative standard deviations (RSDs) and all continuing calibration % differences (% D) were within QC limits except one low PCB-1242 peak (no action was taken as the average % D for all peaks was within QC limits), several low PCB-1260 results (associated sample quantitation limits were qualified as estimated quantities with a low bias [UJL]), and some high surrogate results (no action was taken the samples associated with this surrogate were all non-detect and all surrogate recoveries were within QC limits).

**4. Error Determination: Not Provided.**

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

**5. Blanks: Acceptable.**

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and for each concentration level, or every 20 samples, whichever is greater, and for each analytical system. No target analytes were detected in any blanks.

**6. Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**7. System Monitoring Compounds (SMCs): Acceptable.**

All recoveries of the SMCs were within the established control limits.

**8. Blank and Matrix Spikes: Acceptable.**

Recoveries of all spiked analytes were within the appropriate control limits.

**9. Duplicates: Acceptable.**

Relative Percent Differences (RPDs) were within the required control limits.

**10. Compound Identification: Acceptable.**

All positive results were dual-column confirmed with differences between the columns less than 25%.

**11. Target Compound Quantitation and Quantitation Limits: Acceptable.**

Sample results and quantitation limits were correctly calculated.

**12. Laboratory Contact**

No laboratory contact was required.

**13. Overall Assessment**

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

### Data Qualifiers and Definitions

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- JH - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a high bias.
- JL - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a low bias.
- JK - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias.
- JQ - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias and falls between the MDL and the Minimum (or Practical) Quantitation Limit (MQL, PQL).
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
- NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

**Analytical Data**

Client: Ecology and Environment, Inc.

Job Number: 580-32320-1

Client Sample ID: 042012-0001

Lab Sample ID: 580-32320-1

Date Sampled: 04/11/2012 1200

Client Matrix: Waste

Date Received: 04/13/2012 0815

**8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analysis Method:	8082	Analysis Batch:	580-109208	Instrument ID:	TAC045
Prep Method:	3580A	Prep Batch:	580-109237	Initial Weight/Volume:	.2117 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	04/13/2012 2301			Injection Volume:	1 uL
Prep Date:	04/13/2012 0957			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.15	0.47
PCB-1221		ND		0.38	0.52
PCB-1232		ND		0.33	0.52
PCB-1242		ND		0.099	0.47
PCB-1248		ND		0.14	0.47
PCB-1254		ND		0.099	0.47
PCB-1260		ND		0.14	0.47

U  
↓ JL

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	65		45 - 135
DCB Decachlorobiphenyl	90	TM	50 - 140

*Mu*  
*4/20/12*

Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-32320-1

Client Sample ID: 042012-0002

Lab Sample ID: 580-32320-2

Client Matrix: Waste

Date Sampled: 04/11/2012 1205

Date Received: 04/13/2012 0815

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method: 8082                      Analysis Batch: 580-109208                      Instrument ID: TAC045  
Prep Method: 3580A                      Prep Batch: 580-109237                      Initial Weight/Volume: .2265 g  
Dilution: 1.0                      Final Weight/Volume: 10 mL  
Analysis Date: 04/13/2012 2315                      Injection Volume: 1 uL  
Prep Date: 04/13/2012 0957                      Result Type: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.14	0.44
PCB-1221		ND		0.35	0.49
PCB-1232		ND		0.31	0.49
PCB-1242		ND		0.093	0.44
PCB-1248		ND		0.13	0.44
PCB-1254		ND		0.093	0.44
PCB-1260		ND		0.13	0.44
Surrogate		%Rec	Qualifier	Acceptance Limits	
Tetrachloro-m-xylene		75		45 - 135	
DCB Decachlorobiphenyl		86	^	50 - 140	

*MW 4/20/12*

**Analytical Data**

Client: Ecology and Environment, Inc.

Job Number: 580-32320-1

Client Sample ID: 042012-0003

Lab Sample ID: 580-32320-3

Client Matrix: Waste

Date Sampled: 04/11/2012 1210

Date Received: 04/13/2012 0815

**8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography**

Analysis Method: 8082	Analysis Batch: 580-109208	Instrument ID: TAC045
Prep Method: 3580A	Prep Batch: 580-109237	Initial Weight/Volume: .2151 g
Dilution: 1.0		Final Weight/Volume: 10 mL
Analysis Date: 04/13/2012 1433		Injection Volume: 1 uL
Prep Date: 04/13/2012 0957		Result Type: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.15	0.46
PCB-1221		ND		0.37	0.51
PCB-1232		ND		0.33	0.51
PCB-1242		ND		0.098	0.46
PCB-1248		ND		0.14	0.46
PCB-1254		ND		0.098	0.46
PCB-1260		ND		0.14	0.46

↓  
JL

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	69		45 - 135
DCB Decachlorobiphenyl	86		50 - 140

*MW 4/2012*

Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-32320-1

Client Sample ID: 042012-0004

Lab Sample ID: 580-32320-4

Client Matrix: Waste

Date Sampled: 04/11/2012 1215

Date Received: 04/13/2012 0815

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method: 8082	Analysis Batch: 580-109208	Instrument ID: TAC045
Prep Method: 3580A	Prep Batch: 580-109237	Initial Weight/Volume: .2559 g
Dilution: 1.0		Final Weight/Volume: 10 mL
Analysis Date: 04/13/2012 1447		Injection Volume: 1 uL
Prep Date: 04/13/2012 0957		Result Type: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.13	0.39
PCB-1221		ND		0.31	0.43
PCB-1232		ND		0.27	0.43
PCB-1242		ND		0.082	0.39
PCB-1248		ND		0.12	0.39
PCB-1254		ND		0.082	0.39
PCB-1260		ND		0.12	0.39
Surrogate		%Rec	Qualifier	Acceptance Limits	
Tetrachloro-m-xylene		87		45 - 135	
DCB Decachlorobiphenyl		88		50 - 140	

*MW 4/20/12*

Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-32320-1

Client Sample ID: 042012-0005

Lab Sample ID: 580-32320-5

Date Sampled: 04/11/2012 1220

Client Matrix: Waste

Date Received: 04/13/2012 0815

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	580-109208	Instrument ID:	TAC045
Prep Method:	3580A	Prep Batch:	580-109237	Initial Weight/Volume:	.2223 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	04/13/2012 1500			Injection Volume:	1 uL
Prep Date:	04/13/2012 0957			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.14	0.45
PCB-1221		ND		0.36	0.49
PCB-1232		ND		0.31	0.49
PCB-1242		ND		0.094	0.45
PCB-1248		ND		0.13	0.45
PCB-1254		ND		0.094	0.45
PCB-1260		ND		0.13	0.45

↓  
JL

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	68		45 - 135
DCB Decachlorobiphenyl	86		50 - 140

MW  
4-2012

Analytical Data

Client: Ecology and Environment, Inc.

Job Number: 580-32320-1

Client Sample ID: 042012-0006

Lab Sample ID: 580-32320-6

Client Matrix: Waste

Date Sampled: 04/11/2012 1225

Date Received: 04/13/2012 0815

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	580-109208	Instrument ID:	TAC045
Prep Method:	3580A	Prep Batch:	580-109237	Initial Weight/Volume:	.2317 g
Dilution:	1.0			Final Weight/Volume:	10 mL
Analysis Date:	04/13/2012 1514			Injection Volume:	1 uL
Prep Date:	04/13/2012 0957			Result Type:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.14	0.43
PCB-1221		ND		0.35	0.47
PCB-1232		ND		0.30	0.47
PCB-1242		ND		0.091	0.43
PCB-1248		ND		0.13	0.43
PCB-1254		ND		0.091	0.43
PCB-1260		ND		0.13	0.43

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	68		45 - 135
DCB Decachlorobiphenyl	93		50 - 140

*Handwritten notes: A vertical line with a checkmark is drawn next to the PCB results. A signature 'JL' is written at the bottom right of the table.*

*Handwritten signature: MW 4/20/12*