

#1243

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MULTNOMAH
PHASE 2 SUMMARY SUMP INVESTIGATION

REPORT
03/05/97



InterMountain West, Inc.

PHASE II
SUMMARY REPORT
SUMP INVESTIGATION
for
WAGSTAFF BATTERY MANUFACTURING CO.

DEPT OF ENVIRONMENTAL QUALITY
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MAR 27 1997

NORTHWEST REGION

**PHASE II
SUMMARY REPORT

SUMP INVESTIGATION
for
WAGSTAFF BATTERY MANUFACTURING CO.**

March 5, 1997

**Prepared for:
Mr. Bruce Hindman
2124 N. Williams Avenue
Portland OR 97227**

**Prepared by:
Intermountain West Inc.
PO Box 1938
Wilsonville, Oregon 97070**

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EXECUTIVE SUMMARY

Intermountain West, Inc. (IMW), an environmental services contractor was contracted by Wagstaff Battery Manufacturing Co. to perform a Phase II site investigation at their facility in Portland, Oregon. The site investigation consisted of sampling beneath three sumps on-site to determine whether underlying soils had been impacted by sump usage. IMW mobilized personnel to the site on January 9th and 10th, 1997, and obtained native soil samples from beneath the three sumps. Analytical testing revealed lead contamination in one of the soil samples (sump #2), and lead and petroleum contaminants in another sample (sump #1).

On January 31, 1997, Wagstaff Battery personnel removed contaminated soils from the two sumps utilizing a post hole digger and obtained additional samples approximately 10 inches below the original sampling points. IMW personnel packaged and transported these samples to a laboratory for analysis. The samples indicated that lead and petroleum contaminants were still present.

On February 14th and 17th, IMW personnel returned to the site and advanced the excavations 1 - 1 ½ feet. IMW noted that the previous round of sampling performed by Wagstaff personnel had most likely been cross contaminated due to improper excavation and sampling techniques. Drag down of overburden material was evident. IMW personnel carefully removed this overburden before sampling. Laboratory analysis of samples from sump #1 and #2 indicated that although lead contaminants were no longer detected at significant levels, petroleum contamination was still present in sump #1 at 9,000 mg/kg.

No further investigation or removal activities in sump #1 have been carried out as of the date of this report. Conversations with Mike Rosen of the Department of Environmental Quality (DEQ) have indicated that entry into the voluntary clean-up program would be necessary before the DEQ would render any discussions on whether further soil removal is required. It is likely however that further delineation of the vertical and lateral extent of the petroleum contamination underlying sump #1 will be required.

1.0 INTRODUCTION

Wagstaff Battery Company contracted IMW to characterize the soils beneath three sumps at their Portland, Oregon facility located at 2124 N Williams Avenue. IMW mobilized personnel on-site January 9 and January 10, 1997 to perform initial sampling of sumps.

2.0 LOCATION

The Wagstaff Battery manufacturing facility is located at 2124 N. Williams in Portland, Oregon. It is a commercial property occupying approximately 0.5 acres and is located between N. Tillamook Street and N. Thompson Street. The property lies approximately ½ mile Northeast of the Willamette River. Refer to Figure 1 for a site location map.

3.0 SITE ACTIVITIES

3.1 Initial Sampling of Sumps

Sump #1 is a concrete sump with a plastic liner located adjacent to the above ground acid tanks in Building I. During battery reconditioning operations, the batteries were washed with soap and a dilute ammonium solution. Wash solutions were collected in the sump and pumped into a drywell outside the building. Upon initial inspection the sump contained approximately 55 gallons of liquids and sludge. All liquids were pumped into a drum. The sludges were then removed manually and packaged into the same drum. A representative sludge (5884-SL4) sample was obtained. The sump measured 24" in diameter and 36" below ground surface (BGS). IMW removed the plastic liner in the sump which exposed the concrete. The concrete appeared deteriorated, possibly from contact with acids. IMW broke the concrete at the bottom of the sump in an 8-inch diameter area, and removed concrete to expose native soil underneath. IMW pulled a 32 oz. grab sample (5884-S1) at 42" BGS and packaged it into a glass jar with a Teflon lid.

Sump #2 is a metal-lined sump containing solid material located in the pasting room in Building I. The sump was used as a receptacle for fluids generated during washing of the pasting room floor. Collected fluids were then pumped from the sump to a drywell located outside the building. The Sump measures 24" square and 36" BGS. IMW manually removed enough solid material to expose one corner of the sump bottom, approximately 8" square. The bottom of the sump was deteriorated and holes were noted in the corners. IMW removed the portion of sump bottom using a jack hammer. This proved to be difficult because away from the corners the steel was intact. Native soil was exposed and a 32 oz. grab sample (5884-S2), was pulled at 38" BGS and packaged into a glass jar with Teflon lid.

Sump #3 is a metal-lined sump located in Building II. The sump measures 24" square and 36" BGS. Sump #3 contained liquids and solids. The sump solids were mostly cigarette butts and it was determined later that this is part of the sewer system. All liquids were pumped into 55-gallon drums and sludges were then removed manually.



InterMountain West, Inc.

Hazardous Waste Management Specialists

March 3, 1997

Mr. Bruce Hindman
Wagstaff Battery Manufacturing
2124 N. Williams Avenue
Portland OR 97227

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RECEIVED

MAR 27 1997

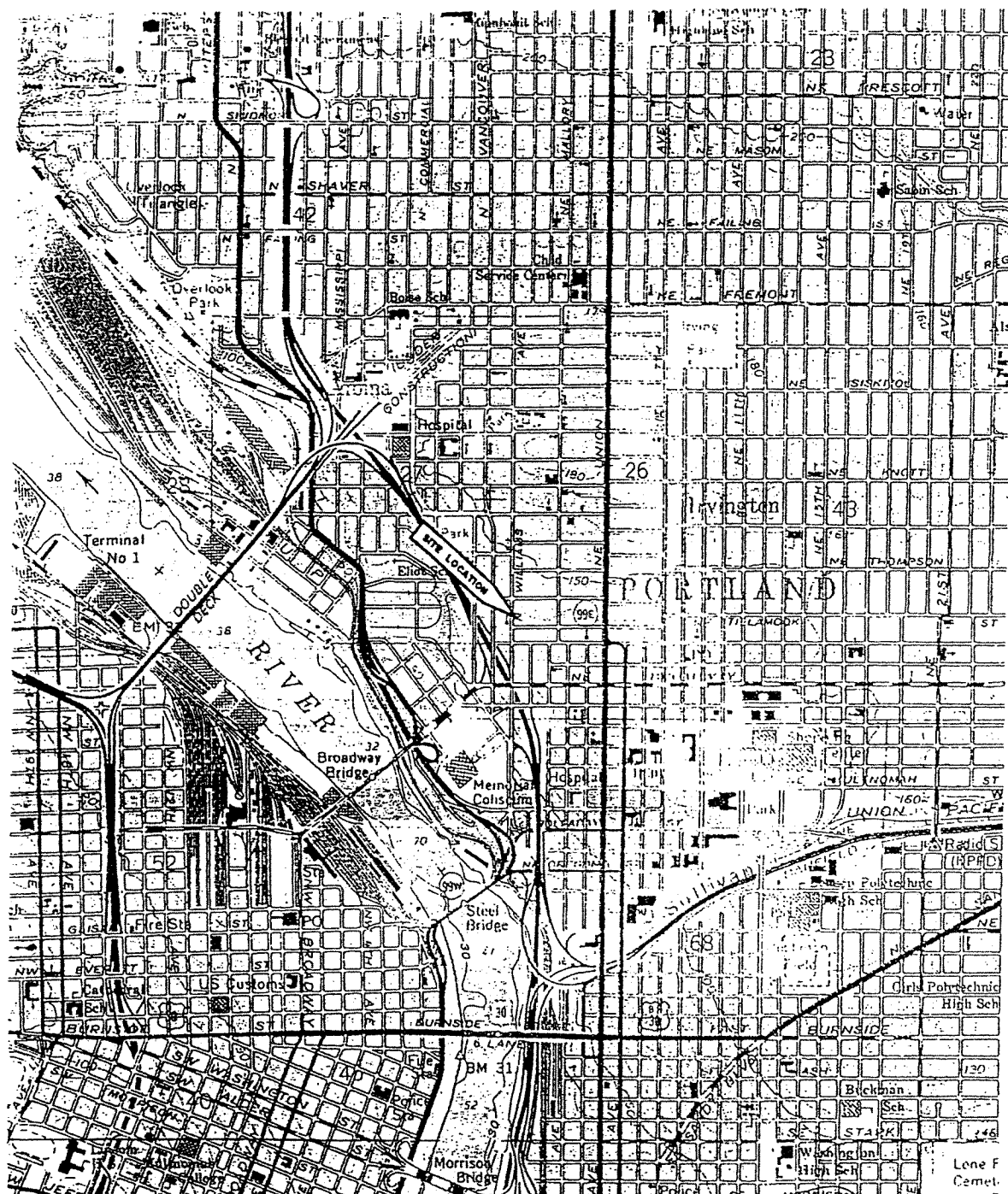
NORTHWEST REGION

Dear Mr. Hindman:

The following report summarizes sump investigation activities performed in January and February of 1997 by InterMountain West, Inc. (IMW) for Wagstaff Battery Manufacturing Company. As we have discussed, soils beneath sump #1 still appear to have been impacted by petroleum contamination. Entry into the voluntary cleanup program and further sampling to delineate vertical and lateral extent of the contamination may be required before DEQ will issue a NFA letter. Please contact me at 503/682-1203 if you have any questions concerning this report.

Sincerely,

David Jacobs
Director, Field Operations



BASE: Portions of U.S. Geological
Survey map, 7.5-minute quadrangle
of Portland, Oregon.
Scale: 1" = approximately 2,000'
Contour intervals = 10'

Figure 1: Site Location Map

INTERMOUNTAIN WEST, INC
IMW PROJECT # 5884

Wagstaff Battery Mfg. Co.
2124 N Williams
Portland, Oregon
UST Decommissioning

and packaged into the same drum. Sump #3 appeared to be intact and in good working order. IMW exposed enough area from the bottom of the sump to sample, using a cutting torch. A 32 oz. Grab sample (5884-S3) was pulled at 38" BGS and packed into a glass jar with Teflon lid. After sampling, the metal removed to sample was welded back in place to secure it from leakage.

All sampling was performed using SW-846 sampling methods. IMW personnel used clean gloves between each sample. All stainless steel sampling spoons used were cleaned between each sample using deionized (DI) water/TSP mixture and then rinsed with DI water and dried. All samples were packaged in clean glass jars with Teflon Lids. All samples were submitted to Coffey Laboratories under Chain of Custody on January 13, 1997.

3.2 Second Round of Sampling of Sumps

After initial sampling, based on laboratory analytical results, it was determined that sump #1 and sump #2 required additional characterization to find the vertical extent of lead and petroleum contamination. On January 31, 1997, Wagstaff personnel re-sampled Sump#1 and Sump#2 through the same access that IMW created prior. Sump #1 was re-sampled (5885 S1-2) at approximately 54". Sump #2 was sampled (5884 S2-2) at approximately 48" BGS. Soil was removed from both sumps using a post hole digger. It is unknown what methods were used to prevent cross-contamination. IMW collected sampled soil and placed it into 32 oz. Glass jars with Teflon lids. The samples were submitted to Coffey Laboratories under Chain of Custody on January 31, 1997.

3.3 Third Round of Sampling of Sumps

Analysis of the samples obtained by Wagstaff Manufacturing on January 31, indicated that lead contamination was still present in both sumps #1 and 2, and petroleum contamination present in sump #1. These samples may have been contaminated by either cross-contamination during sampling or contamination from overburden or source material that was still in the sump, therefore, another round of sampling was scheduled. IMW personnel returned to the site on February 14 and February 17, 1997 to re-sample Sump#1 and Sump#2.

IMW personnel removed the remaining concrete from Sump#1 using a jack hammer. Concrete and soil were removed to 60" BGS. A sample (5884 S1-3) was taken at 72" BGS. A composite sample (5884 S1-4) of the sidewalls was sampled at approximately 50" BGS. A 9 oz. Sample was collected at each location and placed into a glass jar with Teflon lid. IMW removed all remaining source material from Sump #2. The bottom of the sump was removed using a cutting torch. Soil was removed to approximately the same level as Wagstaff Sample #5884-S2-2. A grab sample (5884 S2-3) was collected using a stainless steel trowel at approximately 50" BGS and packaged into a 9 oz. glass jar with a Teflon lid. IMW also pulled an additional sample from sump #2 and had the laboratory hold it pending analysis of 5884 S2-3. The sample (5884 S2-4) was taken at 60" BGS and placed into a glass jar with a Teflon lid. All samples were submitted to Coffey Laboratories under Chain of Custody on February 17, 1997.

4.0 LABORATORY ANALYTICAL RESULTS

Soil samples from sumps #1, 2, and 3 were transported under Chain of Custody to Coffey laboratories, Portland, Oregon for analysis. Samples were analyzed for total lead (EPA method) Volatile Organic Compounds, (EPA Method 8260) PCB's (EPA Method 8080), and Total Petroleum hydrocarbons (EPA Method 418.1 and TPH-HCID). No VOC's or PCB's were detected in any of the samples.

9
X
Samples from the first round of sampling on January 9th and 10th indicated lead was present in sump soils beneath sump #1, 2, and 3 at concentrations of 350 mg/kg, 5700 mg/kg, and 21 mg/kg respectively. Petroleum contamination was present beneath sump #1 at 15,000 mg/kg. Lead and petroleum contaminants were also detected in the sludge sample taken from sump #1.

The second round of sampling was performed on January 31, 1997. Soil samples were obtained from sumps #1 and 2 and analyzed for total lead and petroleum hydrocarbons (sump #1 (S1-2) only). Lead was present in both samples S1-2 and S2-2 at concentrations of 1,900 ppm and 34,000 mg/kg respectively. Petroleum compounds were found in S1-2 at 17,000 mg/kg.

A third round of sampling was performed from sumps #1 and 2 on February 14th and 17th, 1997. Samples S1-3 and 4 and S2-3 were analyzed for total lead and petroleum concentration (sump #1 S1-3 only). Total lead concentrations in sumps #1 and 2 were found to be below 25 mg/kg. However petroleum contamination was still present in sump #1 sample S1-3 at 9,000 mg/kg.

5.0 CONCLUSIONS

Initial soil sampling from sumps #1, 2, and 3 have indicated that lead contaminants had impacted soils beneath sumps #1 and 2. Petroleum contamination was also found to have impacted soils beneath sump #1.

Subsequent soil removal and sampling indicated that lead contamination beneath sump #1 and 2 had been mitigated approximately 72" and 50" BGS respectively. Petroleum contamination was still present in soils under sump #1 at 72" BGS. The source of this petroleum contamination is not known and further sampling is required to delineate its vertical and lateral extent.

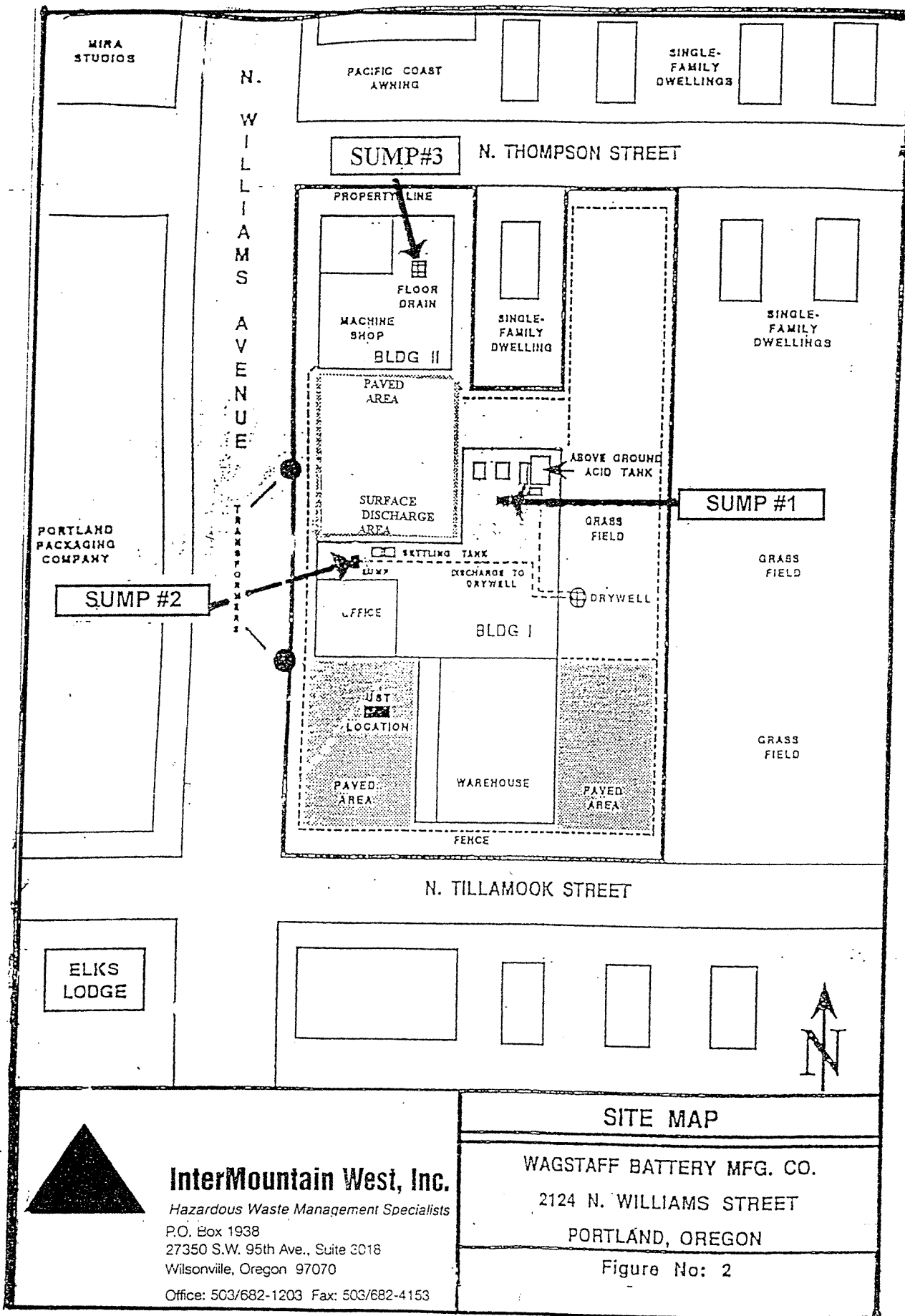


TABLE I Summary of Laboratory Analytical Results
 Soil Samples
 Wagstaff Battery Manufacturing Company
 IMW Project #5884

Sample #	Date	Analysis	Results	Units	BGS
Sump #1					
5884-S1	1/9/97	Total Pb	350	mg/kg	42"
		VOCS 8260	ND		42"
		PCBS 8080	ND		42"
		TPH 418.1	15000	mg/kg	42"
		TPH HCID	Detected diesel/gas	mg/kg	42"
5884-S1-2	1/31/97	Total Pb	1900	mg/kg	54"
		TPH 418.1	17000	mg/kg	54"
5884-S1-3	2/17/97	Total Pb	19	mg/kg	72"
		TPH 418.1	9000	mg/kg	72"
5884-S1-4 CSS	2/17/97	Total Pb	23	mg/kg	60"

Sump #2

5884-S2	1/9/97	Total Pb	5700	mg/kg	38"
		VOCS 8260	ND		38"
		PCBS 8080	ND		38"
		TPH HCID	ND		38"
5884-S2-2	1/31/97	Total Pb	34000	mg/kg	48"
5884-S2-3	2/14/97	Total Pb	15	mg/kg	50"

Sump #3

5884-S3	1/10/97	Total Pb	21	mg/kg	38"
		VOCS 8260	ND		38"
		PCBS 8080	ND		38"
		TPH HCID	ND	mg/kg	38"

Sump #1 (Sludge Sample)

5884-SL4	1/9/97	Total Pb	3500	mg/kg	
		8260	ND		
		PCBS 8080	ND		
		TPH HCID	Detected diesel/gas		
		PH	1.17	S.U.	

Legend

CSS Composite Sidewall Sample

BGS Beneath Ground Surface

ND None Detected

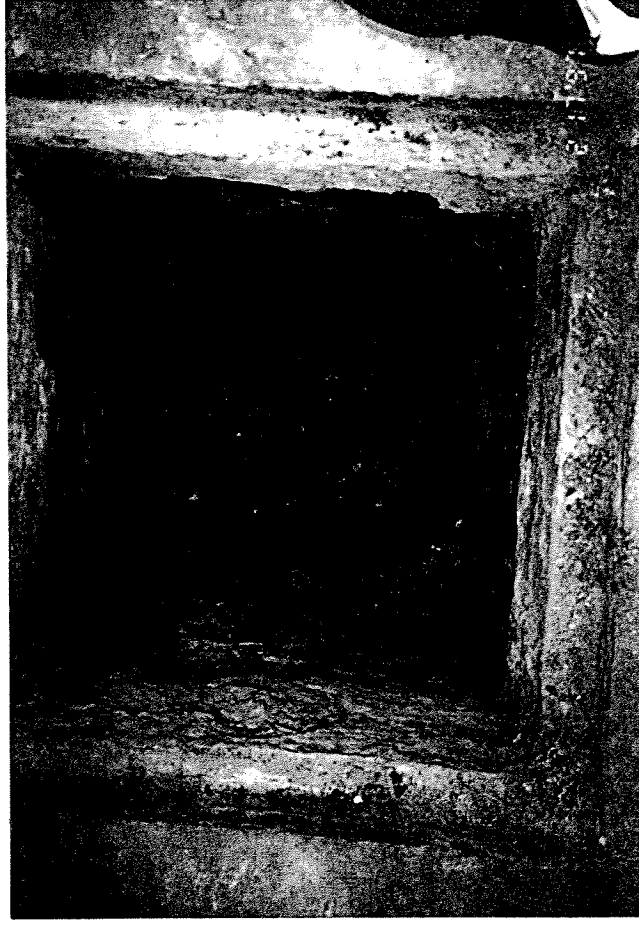
Pb Lead

mg/kg Milligrams/Kilograms

Appendix I
Photographs



Sump #1
Sample #3



Sump #2
Sample #3

Appendix II

Laboratory Analytical Results



Report Date: February 27, 1997
Job Number: 970217AD
PO Number: 5844
Project No: 5844
Project Name: Wagstaff Battery

David Jacobs
Intermountain West
P.O. Box 1938
Wilsonville, OR 97070

Analytical Narrative

The samples were received on 02/17/97 by Coffey Laboratories, Inc. (CLI) Sample Reception personnel under strict chain of custody protocol. The following information was provided at the time of sample reception:

Laboratory Sample ID	Field Identification	Matrix	Collection Date	Collection Time
970217AD-1	5844-S1-3	Soil	02/17/97	1200
970217AD-2	5844-S1-4	Soil	02/17/97	1245
970217AD-3	5844-S2-4	Soil	02/17/97	1115

The recommended holding time for each batch of analyses was in accordance with the data quality objectives as specified in the CLI Quality Assurance Plan unless otherwise noted.

Acceptable precision and accuracy were achieved for all analyses associated with this work order as demonstrated by the recoveries of the quality control samples analyzed concurrently with each batch.

The data submitted in this report is for the sole and exclusive use of the above-named client. All samples associated with the work order will be retained a maximum of 15 days from the report date or until the maximum holding time expires. All results pertain only to samples submitted.

Thank you for allowing Coffey Laboratories to be of service to you. If you have questions or need further assistance, please do not hesitate to call our Customer Services Department.

Sincerely,

Rona A. Klueh
Technical Director

RAK/atc



Analytical Data

Intermountain West

Job Number: 970217AD

Page Number: 2 of 3

Lab Sample ID: 970217AD-1

Field ID: 5844-S1-3

Date/Time: 02/17/97 1200

Matrix: Soil

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Analytical Duplicate	Units
Total Petroleum Hydrocarbons	EPA 418.1 (OR)	1240.	9000	4500	mg/Kg

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Lead	*	1.	19.	mg/Kg

* Sample preparation by EPA SW-846 Method 3050. Sample analysis by EPA SW-846 Method 7420, flame AA.



Analytical Data

Intermountain West

Job Number: 970217AD

Page Number: 3 of 3

Lab Sample ID: 970217AD-2

Field ID: 5844-S1-4

Date/Time: 02/17/97 1245

Matrix: Soil

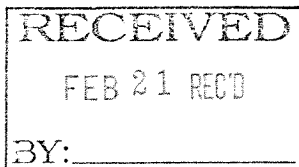
EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Lead	*	1.	23.	mg/Kg

* Sample preparation by EPA SW-846 Method 3050. Sample analysis by EPA SW-846 Method 7420, flame AA.



Report Date: February 19, 1997
Job Number: 970214AA
PO Number: 5844
Project No: 5844
Project Name: Wagstaff Battery



David Jacobs
Intermountain West
P.O. Box 1938
Wilsonville, OR 97070

Analytical Narrative

The sample was received on 02/14/97 by Coffey Laboratories, Inc. (CLI) Sample Reception personnel under strict chain of custody protocol. The following information was provided at the time of sample reception:

Laboratory Sample ID	Field Identification	Matrix	Collection Date	Collection Time
970214AA-1	5844-S2-3	Soil	02/14/97	1230

The recommended holding time for each batch of analyses was in accordance with the data quality objectives as specified in the CLI Quality Assurance Plan unless otherwise noted.

Acceptable precision and accuracy were achieved for all analyses associated with this work order as demonstrated by the recoveries of the quality control samples analyzed concurrently with each batch.

The data submitted in this report is for the sole and exclusive use of the above-named client. All samples associated with the work order will be retained a maximum of 15 days from the report date or until the maximum holding time expires. All results pertain only to samples submitted.

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Sincerely,

Rona A. Klueh
Technical Director

RAK/atc



Analytical Data

Intermountain West

Job Number: 970214AA

Page Number: 2 of 2

Lab Sample ID: 970214AA-1

Field ID: 5844-S2-3

Date/Time: 02/14/97 1230

Matrix: Soil

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Lead	*	1.	15.	mg/Kg

* Sample preparation by EPA SW-846 Method 3050. Sample analysis by EPA SW-846 Method 7470, Flame AA.

Coffey Laboratories, Inc.

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452



Report Date: February 13, 1997
Job Number: 970206AX
PO Number: 5844
Project No: 5844
Project Name: Wagstaff

David Jacobs
Intermountain West
9025 SW Hillman Court
Suite 3126
Wilsonville, OR 97070

Analytical Narrative

The samples were received on 02/06/97 by Coffey Laboratories, Inc. (CLI) Sample Reception personnel under strict chain of custody protocol. The following information was provided at the time of sample reception:

Laboratory Sample ID	Field Identification	Matrix	Collection Date	Collection Time
970206AX-1	5884 - S1 - 2	Soil	01/31/97	1230
970206AX-2	5884 - S2 - 2	Soil	01/31/97	1245

The recommended holding time for each batch of analyses was in accordance with the data quality objectives as specified in the CLI Quality Assurance Plan unless otherwise noted.

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Sincerely,

Rona A. Klueh
Technical Director

RAK/atc



Analytical Data

Intermountain West

Job Number: 970206AX

Page Number: 2 of 3

Lab Sample ID: 970206AX-1

Field ID: 5884 - S1 - 2

Date/Time: 01/31/97 1230

Matrix: Soil

EPA Category: Conventional Parameters

<u>Parameter</u>	<u>Method</u>	<u>Detection Limit</u>	<u>Analytical Result</u>	<u>Units</u>
Total Petroleum Hydrocarbons	EPA 418.1 (OR)	1830.	17000	mg/Kg

EPA Category: Metals

<u>Parameter</u>	<u>Method</u>	<u>Detection Limit</u>	<u>Analytical Result</u>	<u>Units</u>
Lead	*	100.	1900	mg/Kg

* Sample preparation by EPA SW-846 Method 3050.. Sample analysis by EPA SW-846 Method 7420, flame AA.



Analytical Data

Intermountain West

Job Number: 970206AX

Page Number: 3 of 3

Lab Sample ID: 970206AX-2

Field ID: 5884 - S2 - 2

Date/Time: 01/31/97 1245

Matrix: Soil

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Lead	*	980	34000	mg/Kg

* Sample preparation by EPA SW-846 Method 3050. Sample analysis by EPA SW-846 Method 7420, flame AA.



Report Date: January 31, 1997
Job Number: 970113AP
PO Number: 5884
Project No: 5884
Project Name: Wagstaff

David Jacobs
Intermountain West
P.O. Box 1938
Wilsonville, OR 97070

Analytical Narrative

The samples were received on 01/13/97 by Coffey Laboratories, Inc. (CLI) Sample Reception personnel under strict chain of custody protocol. The following information was provided at the time of sample reception:

Laboratory Sample ID	Field Identification	Matrix	Collection Date	Collection Time
970113AP-1	5884 - S1	Soil	01/09/97	1315
970113AP-2	5884 - S2	Soil	01/09/97	NP
970113AP-3	5884 - S3	Soil	01/10/97	1145
970113AP-4	5884 - SL4	Multi-phase	01/09/97	1200

The recommended holding time for each batch of analyses was in accordance with the data quality objectives as specified in the CLI Quality Assurance Plan unless otherwise noted.

Acceptable precision and accuracy were achieved for all analyses associated with this work order as demonstrated by the recoveries of the quality control samples analyzed concurrently with each batch.

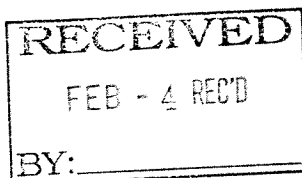
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Sincerely,

Rona A. Klueh
Technical Director

RAK/atc1



Coffey Laboratories, Inc.

12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 2 of 25

Lab Sample ID: 970113AP-1

Field ID: 5884 - S1

Date/Time: 01/09/97 1315

Matrix: Soil

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Analytical Duplicate	Units
Total Petroleum Hydrocarbons	EPA 418.1 (OR)	1490.	15000	30000	mg/Kg

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Lead	*	10.	350	mg/Kg

* Sample preparation by EPA SW-846 Method 3050. Sample analysis by EPA SW-846 Method 7420, flame AA.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 3 of 25

Lab Sample ID: 970113AP-1

Field ID: 5884 - S1

Date/Time: 01/09/97 1315

Matrix: Soil

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Acetone	30.	ND	ND
Acrolein	60.	ND	ND
Acrylonitrile	6.	ND	ND
Benzene	1.	ND	ND
Bromobenzene	1.	ND	ND
Bromochloromethane	1.	ND	ND
Bromodichloromethane	1.	ND	ND
Bromoform	1.	ND	ND
Bromomethane	1.	ND	ND
2-Butanone (MEK)	10.	ND	ND
n-Butylbenzene	1.	ND	ND
sec-Butylbenzene	1.	ND	ND
tert-Butylbenzene	1.	ND	ND
Carbon Disulfide	16.	ND	ND
Carbon tetrachloride	1.	ND	ND
Chlorobenzene	1.	ND	ND
Chloroethane	1.	ND	ND
2-Chloroethylvinyl ether	10.	ND	ND
Chloroform	1.	ND	ND
Chloromethane	1.	ND	ND
2-Chlorotoluene	1.	ND	ND
4-Chlorotoluene	1.	ND	ND
1,2-Dibromo-3-chloropropane	4.	ND	ND
Dibromochloromethane	1.	ND	ND
1,2-Dibromoethane	1.	ND	ND
Dibromomethane	1.	ND	ND
1,2-Dichlorobenzene	1.	ND	ND
1,3-Dichlorobenzene	1.	ND	ND
1,4-Dichlorobenzene	1.	ND	ND
Dichlorodifluoromethane	1.	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 4 of 25

Lab Sample ID: 970113AP-1

Field ID: 5884 - S1

Date/Time: 01/09/97 1315

Matrix: Soil

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
1,1-Dichloroethane	1.	ND	ND
1,2-Dichloroethane	1.	ND	ND
1,1-Dichloroethene	1.	ND	ND
cis-1,2-Dichloroethene	1.	ND	ND
trans-1,2-Dichloroethene	1.	ND	ND
1,2-Dichloropropane	1.	ND	ND
1,3-Dichloropropane	1.	ND	ND
2,2-Dichloropropane	1.	ND	ND
1,1-Dichloropropene	1.	ND	ND
cis-1,3-Dichloropropene	1.	ND	ND
trans-1,3-Dichloropropene	1.	ND	ND
Ethylbenzene	1.	ND	ND
Hexachlorobutadiene	1.	ND	ND
2-Hexanone	6.	ND	ND
Iodomethane	6.	ND	ND
Isopropylbenzene	1.	ND	ND
4-Isopropyltoluene	1.	ND	ND
4-Methyl-2-pentanone	6.	ND	ND
Methylene chloride	1.	ND	ND
Naphthalene	4.	ND	ND
n-Propylbenzene	1.	ND	ND
Styrene	1.	ND	ND
1,1,1,2-Tetrachloroethane	1.	ND	ND
1,1,2,2-Tetrachloroethane	1.	ND	ND
Tetrachloroethene	1.	ND	ND
Toluene	1.	ND	ND
1,2,3-Trichlorobenzene	4.	ND	ND
1,2,4-Trichlorobenzene	4.	ND	ND
1,1,1-Trichloroethane	1.	ND	ND
1,1,2-Trichloroethane	1.	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 5 of 25

Lab Sample ID: 970113AP-1

Field ID: 5884 - S1

Date/Time: 01/09/97 1315

Matrix: Soil

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

<u>Parameter</u>	<u>Detection Limit</u>	<u>Laboratory Blank</u>	<u>Analytical Result</u>
Trichloroethene	1.	ND	ND
Trichlorofluoromethane	1.	ND	ND
1,2,3-Trichloropropane	1.	ND	ND
1,2,4-Trimethylbenzene	1.	ND	ND
1,3,5-Trimethylbenzene	1.	ND	ND
Vinyl Acetate	30.	ND	ND
Vinyl chloride	1.	ND	ND
m,p-Xylene	1.	ND	ND
o-Xylene	1.	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 6 of 25

Lab Sample ID: 970113AP-1

Field ID: 5884 - S1

Date/Time: 01/09/97 1315

Matrix: Soil

EPA Category: Extractable Organics

Analysis Performed: DEQ TPH-HCID; TPH-HCID qualitative scan for hydrocarbons, by GC/FID.

Analysis Date: 01/13/96

Analyst: AB

Summary of Qualitative Screening Test:

	Sample Results
Gasoline detected by TPH-HCID	✓
Gasoline not detected by TPH-HCID	
Diesel detected by TPH-HCID	✓
Diesel not detected by TPH-HCID	
Hydrocarbons heavier than C28 detected	
Recommended further analysis	
TPH-G	
TPH-D	
TPH-418.1	✓
None	
Surrogate Recovery %	NA *

*Surrogate spike recovery could not be calculated because of the concentration of hydrocarbons present.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 7 of 25

Lab Sample ID: 970113AP-1

Field ID: 5884 - S1

Date/Time: 01/09/97 1315

Matrix: Soil

EPA Category: Extractable Organics

Analysis Performed: EPA 8080m; PCBs by GC/ECD.

Analysis Date: 01/23/97

Analyst: DJM

<u>Parameter</u>	<u>Detection Limit</u>	<u>Laboratory Blank</u>	<u>Analytical Result</u>
Aroclor 1016	2.25	ND	ND
Aroclor 1242	0.75	ND	ND
Aroclor 1248	0.75	ND	ND
Aroclor 1254	0.75	ND	ND
Aroclor 1260	0.75	ND	ND
Aroclor 1262	0.75	ND	ND
Aroclor 1268	0.75	ND	ND
Aroclor 1221	0.75	ND	ND
Aroclor 1232	0.75	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 8 of 25

Lab Sample ID: 970113AP-2

Field ID: 5884 - S2

Date/Time: 01/09/97

Matrix: Soil

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Lead	*	200	5700	mg/Kg

* Sample preparation by EPA SW-846 Method 3050. Sample analysis by EPA SW-846 Method 7420, flame AA.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 9 of 25

Lab Sample ID: 970113AP-2

Field ID: 5884 - S2

Date/Time: 01/09/97

Matrix: Soil

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Acetone	6.	ND	ND
Acrolein	12.	ND	ND
Acrylonitrile	1.2	ND	ND
Benzene	0.2	ND	ND
Bromobenzene	0.2	ND	ND
Bromochloromethane	0.2	ND	ND
Bromodichloromethane	0.2	ND	ND
Bromoform	0.2	ND	ND
Bromomethane	0.2	ND	ND
2-Butanone (MEK)	2.	ND	ND
n-Butylbenzene	0.2	ND	ND
sec-Butylbenzene	0.2	ND	ND
tert-Butylbenzene	0.2	ND	ND
Carbon Disulfide	3.2	ND	ND
Carbon tetrachloride	0.2	ND	ND
Chlorobenzene	0.2	ND	ND
Chloroethane	0.2	ND	ND
2-Chloroethylvinyl ether	2.	ND	ND
Chloroform	0.2	ND	ND
Chloromethane	0.2	ND	ND
2-Chlorotoluene	0.2	ND	ND
4-Chlorotoluene	0.2	ND	ND
1,2-Dibromo-3-chloropropane	0.8	ND	ND
Dibromochloromethane	0.2	ND	ND
1,2-Dibromoethane	0.2	ND	ND
Dibromomethane	0.2	ND	ND
1,2-Dichlorobenzene	0.2	ND	ND
1,3-Dichlorobenzene	0.2	ND	ND
1,4-Dichlorobenzene	0.2	ND	ND
Dichlorodifluoromethane	0.2	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 10 of 25

Lab Sample ID: 970113AP-2

Field ID: 5884 - S2

Date/Time: 01/09/97

Matrix: Soil

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
1,1-Dichloroethane	0.2	ND	ND
1,2-Dichloroethane	0.2	ND	ND
1,1-Dichloroethene	0.2	ND	ND
cis-1,2-Dichloroethene	0.2	ND	ND
trans-1,2-Dichloroethene	0.2	ND	ND
1,2-Dichloropropane	0.2	ND	ND
1,3-Dichloropropane	0.2	ND	ND
2,2-Dichloropropane	0.2	ND	ND
1,1-Dichloropropene	0.2	ND	ND
cis-1,3-Dichloropropene	0.2	ND	ND
trans-1,3-Dichloropropene	0.2	ND	ND
Ethylbenzene	0.2	ND	ND
Hexachlorobutadiene	0.2	ND	ND
2-Hexanone	1.2	ND	ND
Iodomethane	1.2	ND	ND
Isopropylbenzene	0.2	ND	ND
4-Isopropyltoluene	0.2	ND	ND
4-Methyl-2-pentanone	1.2	ND	ND
Methylene chloride	0.2	ND	ND
Naphthalene	0.8	ND	ND
n-Propylbenzene	0.2	ND	ND
Styrene	0.2	ND	ND
1,1,1,2-Tetrachloroethane	0.2	ND	ND
1,1,2,2-Tetrachloroethane	0.2	ND	ND
Tetrachloroethene	0.2	ND	ND
Toluene	0.2	ND	ND
1,2,3-Trichlorobenzene	0.8	ND	ND
1,2,4-Trichlorobenzene	0.8	ND	ND
1,1,1-Trichloroethane	0.2	ND	ND
1,1,2-Trichloroethane	0.2	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 11 of 25

Lab Sample ID: 970113AP-2

Field ID: 5884 - S2

Date/Time: 01/09/97

Matrix: Soil

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Trichloroethene	0.2	ND	ND
Trichlorofluoromethane	0.2	ND	ND
1,2,3-Trichloropropane	0.2	ND	ND
1,2,4-Trimethylbenzene	0.2	ND	ND
1,3,5-Trimethylbenzene	0.2	ND	ND
Vinyl Acetate	6.	ND	ND
Vinyl chloride	0.2	ND	ND
m,p-Xylene	0.2	ND	ND
o-Xylene	0.2	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 12 of 25

Lab Sample ID: 970113AP-2

Field ID: 5884 - S2

Date/Time: 01/09/97

Matrix: Soil

EPA Category: Extractable Organics

Analysis Performed: DEQ TPH-HCID; TPH-HCID qualitative scan for hydrocarbons, by GC/FID.

Analysis Date: 01/13/96

Analyst: AB

Summary of Qualitative Screening Test:

	Sample Results
Gasoline detected by TPH-HCID	
Gasoline not detected by TPH-HCID	✓
Diesel detected by TPH-HCID	
Diesel not detected by TPH-HCID	✓
Hydrocarbons heavier than C28 detected	
Recommended further analysis	
TPH-G	
TPH-D	
TPH-418.1	
None	✓
Surrogate Recovery %	45%



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 13 of 25

Lab Sample ID: 970113AP-2

Field ID: 5884 - S2

Date/Time: 01/09/97

Matrix: Soil

EPA Category: Extractable Organics

Analysis Performed: EPA 8080m; PCBs by GC/ECD.

Analysis Date: 01/23/97

Analyst: DJM

<u>Parameter</u>	<u>Detection Limit</u>	<u>Laboratory Blank</u>	<u>Analytical Result</u>
Aroclor 1016	0.45	ND	ND
Aroclor 1242	0.15	ND	ND
Aroclor 1248	0.15	ND	ND
Aroclor 1254	0.15	ND	ND
Aroclor 1260	0.15	ND	ND
Aroclor 1262	0.15	ND	ND
Aroclor 1268	0.15	ND	ND
Aroclor 1221	0.15	ND	ND
Aroclor 1232	0.15	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 14 of 25

Lab Sample ID: 970113AP-3

Field ID: 5884 - S3

Date/Time: 01/10/97 1145

Matrix: Soil

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Lead	*	1.	21.	mg/Kg

* Sample preparation by EPA SW-846 Method 3050. Sample analysis by EPA SW-846 Method 7420, flame AA.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 15 of 25

Lab Sample ID: 970113AP-3

Field ID: 5884 - S3

Date/Time: 01/10/97 1145

Matrix: Soil

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Acetone	6.	ND	ND
Acrolein	12.	ND	ND
Acrylonitrile	1.2	ND	ND
Benzene	0.2	ND	ND
Bromobenzene	0.2	ND	ND
Bromochloromethane	0.2	ND	ND
Bromodichloromethane	0.2	ND	ND
Bromoform	0.2	ND	ND
Bromomethane	0.2	ND	ND
2-Butanone (MEK)	2.	ND	ND
n-Butylbenzene	0.2	ND	ND
sec-Butylbenzene	0.2	ND	ND
tert-Butylbenzene	0.2	ND	ND
Carbon Disulfide	3.	ND	ND
Carbon tetrachloride	0.2	ND	ND
Chlorobenzene	0.2	ND	ND
Chloroethane	0.2	ND	ND
2-Chloroethylvinyl ether	2.	ND	ND
Chloroform	0.2	ND	ND
Chloromethane	0.2	ND	ND
2-Chlorotoluene	0.2	ND	ND
4-Chlorotoluene	0.2	ND	ND
1,2-Dibromo-3-chloropropane	0.8	ND	ND
Dibromochloromethane	0.2	ND	ND
1,2-Dibromoethane	0.2	ND	ND
Dibromomethane	0.2	ND	ND
1,2-Dichlorobenzene	0.2	ND	ND
1,3-Dichlorobenzene	0.2	ND	ND
1,4-Dichlorobenzene	0.2	ND	ND
Dichlorodifluoromethane	0.2	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

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Lab Sample ID: 970113AP-3

Field ID: 5884 - S3

Date/Time: 01/10/97 1145

Matrix: Soil

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
1,1-Dichloroethane	0.2	ND	ND
1,2-Dichloroethane	0.2	ND	ND
1,1-Dichloroethene	0.2	ND	ND
cis-1,2-Dichloroethene	0.2	ND	ND
trans-1,2-Dichloroethene	0.2	ND	ND
1,2-Dichloropropane	0.2	ND	ND
1,3-Dichloropropane	0.2	ND	ND
2,2-Dichloropropane	0.2	ND	ND
1,1-Dichloropropene	0.2	ND	ND
cis-1,3-Dichloropropene	0.2	ND	ND
trans-1,3-Dichloropropene	0.2	ND	ND
Ethylbenzene	0.2	ND	ND
Hexachlorobutadiene	0.2	ND	ND
2-Hexanone	1.2	ND	ND
Iodomethane	1.2	ND	ND
Isopropylbenzene	0.2	ND	ND
4-Isopropyltoluene	0.2	ND	ND
4-Methyl-2-pentanone	1.2	ND	ND
Methylene chloride	0.2	ND	ND
Naphthalene	0.8	ND	ND
n-Propylbenzene	0.2	ND	ND
Styrene	0.2	ND	ND
1,1,1,2-Tetrachloroethane	0.2	ND	ND
1,1,2,2-Tetrachloroethane	0.2	ND	ND
Tetrachloroethene	0.2	ND	ND
Toluene	0.2	ND	ND
1,2,3-Trichlorobenzene	0.8	ND	ND
1,2,4-Trichlorobenzene	0.8	ND	ND
1,1,1-Trichloroethane	0.2	ND	ND
1,1,2-Trichloroethane	0.2	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 17 of 25

Lab Sample ID: 970113AP-3

Field ID: 5884 - S3

Date/Time: 01/10/97 1145

Matrix: Soil

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Trichloroethene	0.2	ND	ND
Trichlorofluoromethane	0.2	ND	ND
1,2,3-Trichloropropane	0.2	ND	ND
1,2,4-Trimethylbenzene	0.2	ND	ND
1,3,5-Trimethylbenzene	0.2	ND	ND
Vinyl Acetate	6.	ND	ND
Vinyl chloride	0.2	ND	ND
m,p-Xylene	0.2	ND	ND
o-Xylene	0.2	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 18 of 25

Lab Sample ID: 970113AP-3

Field ID: 5884 - S3

Date/Time: 01/10/97 1145

Matrix: Soil

EPA Category: Extractable Organics

Analysis Performed: DEQ TPH-HCID; TPH-HCID qualitative scan for hydrocarbons, by GC/FID.

Analysis Date: 01/13/96

Analyst: AB

Summary of Qualitative Screening Test:

	Sample Results
Gasoline detected by TPH-HCID	
Gasoline not detected by TPH-HCID	✓
Diesel detected by TPH-HCID	
Diesel not detected by TPH-HCID	✓
Hydrocarbons heavier than C28 detected	
Recommended further analysis	
TPH-G	
TPH-D	
TPH-418.1	
None	✓
Surrogate Recovery %	53%



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 19 of 25

Lab Sample ID: 970113AP-3

Field ID: 5884 - S3

Date/Time: 01/10/97 1145

Matrix: Soil

EPA Category: Extractable Organics

Analysis Performed: EPA 8080m; PCBs by GC/ECD.

Analysis Date: 01/23/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Aroclor 1016	0.45	ND	ND
Aroclor 1242	0.15	ND	ND
Aroclor 1248	0.15	ND	ND
Aroclor 1254	0.15	ND	ND
Aroclor 1260	0.15	ND	ND
Aroclor 1262	0.15	ND	ND
Aroclor 1268	0.15	ND	ND
Aroclor 1221	0.15	ND	ND
Aroclor 1232	0.15	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 20 of 25

Lab Sample ID: 970113AP-4

Field ID: 5884 - SL4

Date/Time: 01/09/97 1200

Matrix: Multi-phase

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units	Analysis Date	Analyst
pH	EPA 9045	----	1.17	S.U.	01/15/97	RGR

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Lead	*	100	3500	mg/Kg

* Sample preparation by EPA SW-846 Method 3050. Sample analysis by EPA SW-846 Method 7420, flame AA.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 21 of 25

Lab Sample ID: 970113AP-4

Field ID: 5884 - SL4

Date/Time: 01/09/97 1200

Matrix: Multi-phase

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Acetone	20.	ND	20
Acrolein	40.	ND	ND
Acrylonitrile	4.	ND	ND
Benzene	0.7	ND	ND
Bromobenzene	0.7	ND	ND
Bromochloromethane	0.7	ND	ND
Bromodichloromethane	0.7	ND	ND
Bromoform	0.7	ND	ND
Bromomethane	0.7	ND	ND
2-Butanone (MEK)	7.	ND	ND
n-Butylbenzene	0.7	ND	ND
sec-Butylbenzene	0.7	ND	ND
tert-Butylbenzene	0.7	ND	ND
Carbon Disulfide	11.	ND	ND
Carbon tetrachloride	0.7	ND	ND
Chlorobenzene	0.7	ND	ND
Chloroethane	0.7	ND	ND
2-Chloroethylvinyl ether	7.	ND	ND
Chloroform	0.7	ND	ND
Chloromethane	0.7	ND	ND
2-Chlorotoluene	0.7	ND	5.6
4-Chlorotoluene	0.7	ND	ND
1,2-Dibromo-3-chloropropane	3.	ND	ND
Dibromochloromethane	0.7	ND	ND
1,2-Dibromoethane	0.7	ND	ND
Dibromomethane	0.7	ND	ND
1,2-Dichlorobenzene	0.7	ND	ND
1,3-Dichlorobenzene	0.7	ND	ND
1,4-Dichlorobenzene	0.7	ND	ND
Dichlorodifluoromethane	0.7	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 22 of 25

Lab Sample ID: 970113AP-4

Field ID: 5884 - SL4

Date/Time: 01/09/97 1200

Matrix: Multi-phase

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
1,1-Dichloroethane	0.7	ND	ND
1,2-Dichloroethane	0.7	ND	ND
1,1-Dichloroethene	0.7	ND	ND
cis-1,2-Dichloroethene	0.7	ND	ND
trans-1,2-Dichloroethene	0.7	ND	ND
1,2-Dichloropropane	0.7	ND	ND
1,3-Dichloropropane	0.7	ND	ND
2,2-Dichloropropane	0.7	ND	ND
1,1-Dichloropropene	0.7	ND	ND
cis-1,3-Dichloropropene	0.7	ND	ND
trans-1,3-Dichloropropene	0.7	ND	ND
Ethylbenzene	0.7	ND	ND
Hexachlorobutadiene	0.7	ND	ND
2-Hexanone	4.	ND	ND
Iodomethane	4.	ND	ND
Isopropylbenzene	0.7	ND	ND
4-Isopropyltoluene	0.7	ND	ND
4-Methyl-2-pentanone	4.	ND	ND
Methylene chloride	0.7	ND	ND
Naphthalene	3.	ND	ND
n-Propylbenzene	0.7	ND	ND
Styrene	0.7	ND	ND
1,1,1,2-Tetrachloroethane	0.7	ND	ND
1,1,2,2-Tetrachloroethane	0.7	ND	ND
Tetrachloroethene	0.7	ND	ND
Toluene	0.7	ND	0.9
1,2,3-Trichlorobenzene	3.	ND	ND
1,2,4-Trichlorobenzene	3.	ND	ND
1,1,1-Trichloroethane	0.7	ND	ND
1,1,2-Trichloroethane	0.7	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 23 of 25

Lab Sample ID: 970113AP-4

Field ID: 5884 - SL4

Date/Time: 01/09/97 1200

Matrix: Multi-phase

EPA Category: Volatile Organics

Analysis Performed: EPA 8260; Volatile Organics by GC/MS.

Analysis Date: 01/15/97

Analyst: DJM

Parameter	Detection Limit	Laboratory Blank	Analytical Result
Trichloroethene	0.7	ND	ND
Trichlorofluoromethane	0.7	ND	ND
1,2,3-Trichloropropane	0.7	ND	ND
1,2,4-Trimethylbenzene	0.7	ND	ND
1,3,5-Trimethylbenzene	0.7	ND	ND
Vinyl Acetate	20.	ND	ND
Vinyl chloride	0.7	ND	ND
m,p-Xylene	0.7	ND	ND
o-Xylene	0.7	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 24 of 25

Lab Sample ID: 970113AP-4

Field ID: 5884 - SL4

Date/Time: 01/09/97 1200

Matrix: Multi-phase

EPA Category: Extractable Organics

Analysis Performed: DEQ TPH-HCID; TPH-HCID qualitative scan for hydrocarbons, by GC/FID.

Analysis Date: 01/13/96

Analyst: AB

Summary of Qualitative Screening Test:

	Sample Results
Gasoline detected by TPH-HCID	✓
Gasoline not detected by TPH-HCID	
Diesel detected by TPH-HCID	✓
Diesel not detected by TPH-HCID	
Hydrocarbons heavier than C28 detected	
Recommended further analysis	
TPH-G	
TPH-D	
TPH-418.1	✓
None	
Surrogate Recovery %	NA*

*Surrogate spike recovery could not be calculated because of the concentration of hydrocarbons present.



Analytical Data

Intermountain West

Job Number: 970113AP

Page Number: 25 of 25

Lab Sample ID: 970113AP-4

Field ID: 5884 - SL4

Date/Time: 01/09/97 1200

Matrix: Multi-phase

EPA Category: Extractable Organics

Analysis Performed: EPA 8080m; PCBs by GC/ECD.

Analysis Date: 01/23/97

Analyst: DJM

<u>Parameter</u>	<u>Detection Limit</u>	<u>Laboratory Blank</u>	<u>Analytical Result</u>
Aroclor 1016	15.	ND	ND
Aroclor 1242	5.	ND	ND
Aroclor 1248	5.	ND	ND
Aroclor 1254	5.	ND	ND
Aroclor 1260	5.	ND	ND
Aroclor 1262	5.	ND	ND
Aroclor 1268	5.	ND	ND
Aroclor 1221	5.	ND	ND
Aroclor 1232	5.	ND	ND

Results expressed as mg/kg unless otherwise noted.

ND means none detected at or above the detection limit listed.



NORTH CREEK ANALYTICAL
Environmental Laboratory Services

CHAIN OF CUSTODY REPORT

Work Order

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508 (206) 481-9200 FAX 483-2992
East 11115 Montgomery, Suite B, Spokane, WA 99206-4779 (509) 924-9200 FAX 924-9290
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REPORT TO:

INVOICE TO:

ATTENTION: **DAVID JACOBS**

ATTENTION: **Accounts Payable IMW**

ADDRESS: **PO BOX 1938**

ADDRESS: **PO BOX 1938**

WILSONVILLE, OR 97070

WILSONVILLE, OR 97070

PHONE: **(503) 682-1203** FAX: **(503) 682-4153**

P.O. NUMBER: **5884** NCA QUOTE #:

PROJECT NAME: **WAGSTAFF**

Analysis Request:

PROJECT NUMBER: **5884**

Request:

SAMPLED BY:

CLIENT SAMPLE IDENTIFICATION

SAMPLING DATE/TIME

NCA SAMPLE ID (Laboratory Use Only)

1. **5884-S1**

1/9/97

138:15 PM

2. **5884-S2**

1/9/97

11:45 AM

3. **5884-S3**

1/9/97

12:00 PM

4. **5884-SL4**

1/9/97

12:00 PM

5.

6.

7.

8.

9.

10.

RELINQUISHED BY (signature):

David B. Jacobs

DATE:

RECEIVED BY (signature):

Sam M. Bortz

DATE: **1/13/97**

PRINT NAME:

FIRM:

TIME:

PRINT NAME:

FIRM:

TIME:

RELINQUISHED BY (signature):

Sam M. Bortz

DATE: **1/13/97**

RECEIVED BY (signature):

FIRM:

TIME:

PRINT NAME:

FIRM:

TIME:

PRINT NAME:

FIRM:

TIME:

ADDITIONAL REMARKS:

TURNAROUND REQUEST in Business Days *

Organic & Inorganic Analyses

10	7	5	4	3	2	1
Standard						Same Day

Fuels & Hydrocarbon Analyses

5	3-4	2	1
Standard			Same Day

OTHER

Specify:

* Turnaround Requests less than standard may incur Rush Charges.

MATRIX (W, S, A, O)	# OF CONTAINERS	COMMENTS
S	1	Sample 1 - ACID Tank
S	1	Sample 2
S	1	Sample 3 Ammonium
SW	1	Liquid Sludge Sample 1

CENTRAL OREGON BRANCH
827 SW 7th
Redmond, OR 97756
PHONE/FAX (541) 548-0972

CORPORATE HEADQUARTERS
12423 NE Whitaker Way
Portland, OR 97230
(503) 254-1794 FAX: (503) 254-1452

EASTERN OREGON BRANCH
419 SW 5th
Pendleton, OR 97801
PHONE/FAX (541) 276-0385

Report Attention: David Jacobs
Company: Intermountain West
Name: _____
Mailing Address: _____
Phone: (____) _____ FAX: (____) _____
Report Instructions (Special - Additional- Job Specific): _____

PO Number:	5884	Reporting Request
Project Number:		State Compliance Format
Project Name:	Wagstaff	FAX Results - Preliminary
EPA Protocol Containers:	Y/N	Other:
Sample Turnaround		
Standard	<input type="checkbox"/>	
Priority (Additional Fee)	<input type="checkbox"/>	
Rush (Additional Fee)	<input type="checkbox"/>	FAX Results-Final
Emergency (Additional Fee)	<input type="checkbox"/>	Verbals Results
	<input type="checkbox"/>	Extra Report Copy
		(Fees Associated)
Initials:		

FOR LABORATORY USE ONLY	Page <u>of</u> <u> </u>
Job Number: <u>GE970113AP-4</u>	
Custabbr: <u>North Creek</u>	Intermunt #2 <input type="checkbox"/> NEW
<input type="checkbox"/> VISA <input type="checkbox"/> MC Cardholder: <u> </u>	
Card #: <u> </u>	Exp. <u> </u> / <u> </u> / <u> </u>
Cash / Check / CC: \$ <u> </u>	#: <u> </u>
Billing Code: <u>1</u> <u>2</u> <u>3</u> <u>4</u>	
QC LEVEL: <u>1</u> <u>2</u> <u>3</u> <u>4</u>	
FEDX BUS COURIERS UPS	LAB CLIENT MAIL AIR

Sample ID	Loc.	ID #	#	Collection Date / Time	Media	Analysis Requested	Test/ Profile
5884-S1	K25	1x		1/9/97 1315	soil		
5884-S2		2x		1/9/97			
5884-S3		3x		1/10/97 1145	↓		
5884-SL4	X	4x		1/9/97 1200	multi-phase		
Sampled By: Client	AUTHORIZED CUSTOMER SIGNATURE						DATE:

Sample Comments	Relinquished by: (Please Sign)	Date	Time	Received by: (Sign)	Date	Time
				<i>Marc W. Ford</i>	1-13-97	1625

White Copy-Laboratory Yellow Copy - Customer

COMPLETE THIS FORM PER INSTRUCTIONS ON REVERSE SIDE

SUBMISSION OF SAMPLES WITH TESTING REQUIREMENTS TO CLI WILL BE UNDERSTOOD TO BE AN AGREEMENT FOR SERVICES IN ACCORDANCE WITH THE CONDITIONS LISTED ON THE BACK OF THE CLIENT COPY.

PENDLETON BRANCH
287 SE First
Pendleton, OR 97801
(503) 276-0385

PORTLAND BRANCH
12423 NE Whitaker Way
Portland, OR 97230
(503) 254-1794 FAX: (503) 254-1452

Report David Jacobs
Attention: Intermountain West Inc
Company Intermountain West Inc
Name: Intermountain West Inc
Address: P.O. Box 1938
Windsorville, OR 97070
Phone: (503) 682-1203 FAX: (503) 682-4153
Report Instructions:

Project Name:	LAB STAFF
Project Number:	5844
PO Number:	5844
Sample Turnaround	Reporting Request
<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> FAX (T-35)
<input type="checkbox"/> Priority (1.5x Std. Fee)	<input type="checkbox"/> Verbal (T-1157)
<input type="checkbox"/> Rush (2x Std. Fee)	<input type="checkbox"/> Extra Report Copy (T-1402) (Fees Associated)
<input type="checkbox"/> Emergency (3x Std. Fee)	Initials: _____

FOR LABORATORY USE ONLY		Page _____ of _____
Job Number: _____		
Customer: _____	<input type="checkbox"/> NEW	
<input type="checkbox"/> VISA <input type="checkbox"/> M/C Expires: _____		
Card # _____		
Cash / Check: \$ _____	# _____	
Billing Code: 1 2 3 4		
QC LEVEL: 1 2 3 4		
FEDX BUS COURIER DPS LAB CLIENT MAIL		

[illegible]

Sampled by: (Please Print)		Relinquished by: (Please Sign)		Date	Time	Received by: (Sign)		Date	Time
STEVE PEABODY		Steve Peabody		2-6-97	1050	[Signature]		2-6-97	1050
White Copy - Laboratory Copy									
Yellow Copy - Client Copy									
SHADED AREAS FOR LABORATORY USE ONLY									

SUBMISSION OF SAMPLES WITH TESTING REQUIREMENTS TO CLI WILL BE UNDERSTOOD TO BE AN AGREEMENT FOR SERVICES IN ACCORDANCE WITH THE CONDITIONS LISTED ON THE BACK OF THE CLIENT COPY.

CENTRAL OREGON BRANCH
827 SW 7th
Redmond, OR 97756
PHONE/FAX (541) 548-0972

EASTERN OREGON BRANCH
419 SW 5th
Pendleton, OR 97801
PHONE/FAX (541) 276-0385

PO Number:	5844	<table border="0"> <tr> <td><input type="checkbox"/> Standard</td> <td><input type="checkbox"/> State Compliance Format</td> <td><input type="checkbox"/> Reporting Request</td> </tr> <tr> <td><input type="checkbox"/> Priority (Additional Fee)</td> <td><input checked="" type="checkbox"/> FAX Results - Preliminary</td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> Rush (Additional Fee)</td> <td><input checked="" type="checkbox"/> FAX Results-Final</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Emergency (Additional Fee)</td> <td><input type="checkbox"/> Verbal Results</td> <td></td> </tr> </table>	<input type="checkbox"/> Standard	<input type="checkbox"/> State Compliance Format	<input type="checkbox"/> Reporting Request	<input type="checkbox"/> Priority (Additional Fee)	<input checked="" type="checkbox"/> FAX Results - Preliminary		<input checked="" type="checkbox"/> Rush (Additional Fee)	<input checked="" type="checkbox"/> FAX Results-Final		<input type="checkbox"/> Emergency (Additional Fee)	<input type="checkbox"/> Verbal Results	
<input type="checkbox"/> Standard	<input type="checkbox"/> State Compliance Format		<input type="checkbox"/> Reporting Request											
<input type="checkbox"/> Priority (Additional Fee)	<input checked="" type="checkbox"/> FAX Results - Preliminary													
<input checked="" type="checkbox"/> Rush (Additional Fee)	<input checked="" type="checkbox"/> FAX Results-Final													
<input type="checkbox"/> Emergency (Additional Fee)	<input type="checkbox"/> Verbal Results													
Project Name:	WAGSFAF BATTERY													
Project Number:	5844													
EPA Protocol Containers:	Y/N Other:													
Initials:														

Sample ID	Lic.	ID #	Collection Date / Time	Media	Analysis Requested	Test/ Profile
5844-52-3			2/14 12:30	SQC	TOTAL LEAD (PB)	
Sampled By:						
AUTHORIZED CUSTOMER SIGNATURE						DATE:

Sample Comments	Relinquished by: (Please Sign)	Date	Time	Received by: (Sign)	Date	Time
	Steve Pearson	2/11	3:10			
				LAB Tech J. Sosa	2/14/12	0851

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CORPORATE HEADQUARTERS
12423 NE Whitaker Way
Portland, OR 97230
(503) 254-1794 FAX: (503) 254-1452

EASTERN OREGON BRANCH
419 SW 5th
Pendleton, OR 97801
PHONE/FAX (541) 276-0385

Report: DAVID JACOBS
Attention:
Company:
Name: INTERMOUNTAIN WEST, INC.
Mailing:
Address: P.O. Box 1958
WILSONVILLE, OR. 97070
Phone: (503) 682-1203 FAX: (503) 682-4153

PO Number: 58441
 Project Number: 8 58441
 Project Name: WASTAFC BATTERY
 EPA Protocol Containers: Y/N Other: _____
 Sample Turnaround
☐ Standard
☐ Priority (Additional Fee)
☒ Rush (Additional Fee)
☐ Emergency (Additional Fee)
 Initials: _____
 Reporting Request
☐ State Compliance Form
☒ FAX Results - Preliminary
☒ FAX Results-Final
☐ Verbal Results
☐ Extra Report Copy
 (Fees Associated)

FOR LABORATORY USE ONLY
Job Number: 27021178 Page 1 of 1
Custabbr: ☐ NEW
☐ VISA ☐ M/C Cardholder:
Card #: Exp: / /
Cash / Check / CC \$ \$
Billing Code: 1 2 3 4
QC LEVEL: 1 2 3 4
FEDX BUS COURIERS UPS LAB CLIENT MAIL AIR

Sample ID	Loc.	ID	#	Collection Date / Time	Media	Analysis Requested	Test/Profile
5844 - S1-3	12:00 PM	2/17	12:00 PM	Soil	TOTAL Pb - RUSH		
						TPH 4/18.1 - VERBAL TO MARIKIE POSH - BUS 2/17	
						DO NOT ANALYZE UNTIL	
						VERBAL RESULTS FOR THE TOTAL LEAD	
						VERBAL RESULTS FOR THE TOTAL LEAD	
						TO DAVID JACOBS & HE OK'S TEST,	
5844 - S1-4						VERBAL TO MARIKIE - TOTAL Pb. RUSH - SP 2/17	
5844 - S1-4				2/17	12:45 PM	Soil	HOLD FOR POSSIBLE ANALYSIS
5844 - S2-4				2/17	11:15 AM	Soil	HOLD PENDING RESULTS OF 5844-S2-3 SUBMITTED FINNEY, VERBAL TO DAVID JACOBS - 2/17
						TOTAL LEAD (Pb) - RUSH	

DATE: 2/17/17

Sample Comments	Relinquished by: (Please Sign)	Date	Time	Received by: (Sign)	Date	Time
5844-S-3 - Bottom 72" 865	Steve Pearce	2/17/97	1:55Am			
5844-S-4 - comp. 51053						
5844-S-2-4 - Bottom 60" 865						
				LAB	2-17-97	1355

While Copy-Laboratory Yellow Copy - Customer

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