SAF-RC-030
Remaining Sites Confirmation Sampling - Other
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 5/22/12
INITIAL/DATE

COMMENTS:

SDG K3892 SAF-RC-030

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Waste Site: 300-280

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

264 Welsh Pool Road
Exton, Pennsylvania 19341
Phone (610) 280-3000
Fax (610) 280-3041

15 May 2012

Joan Kessner
WC-Hanford, Inc.
2620 Fermi Avenue
MSIN H4-21
Richland, WA 99354

Subject: Analytical Data Package

Dear Ms. Kessner:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	1205008
SDG #	K3892
SAF #	RC-030
Date Received	05/02/12
# Samples	4
Matrix	OTHER SOLID
Volatiles	
Semivolatiles	X
Pest/PCB	X
Glycols	
DRO/KRO/GRO	X
PAHs	X
Herbicides	
Metals	X
Inorganics	

The electronic data deliverable (EDD) has been emailed. If you have any questions, please don't hesitate to contact me at (610) 280-3012.

Sincerely,

Lionville Laboratory
A Division of Eberline Analytical Corporation

Orlette S. Johnson
Project Manager

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 90 pages.

R:\GROUP\PM\ORLETTE\Hanford\Data\B_ltrs.DOC

CHAIN OF CUSTODY

Lionville Laboratory Use Only

1205008

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Lionville Laboratory
A Division of Eberline Analytical Corporation

Client: WC Hanford SAF# RC-030
Est. Final Proj. Sampling Date:
Project#:
Project Contact/Phone#:
Lionville Laboratory Project Manager: Quletta Johnson
QC: SW Del: SW TAT: 15

Date Rec'd: 5-2-12 Date Due: 5-17-12

Refrigerator #		A	2
#/Type Container	Liquid		
	Solid		1pl
Volume	Liquid		
	Solid		1L
Preservatives			

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb	PAH 8310	TPH		INORG Metal + Hg	CN						
								Lionville Laboratory Use Only													
								8270	8081		PAH 8310	DRO/MO		METO							
01	J1P1M3			SO	5-1-12	0830		X	X		X	X		X							
02	J1P1M4			↓	↓	0835		X	X		X	X		X							
03	J1P1M5					0850		X	X		X	X		X							
04	J1P1M6					0900		X	X		X	X		X							

MATRIX CODES:
W Water
WW Waste Water
GW Groundwater
WST Waste
WI Wipe
SO Solid
S Soil
SL Sludge
SE Sediment
PC Paint Chips
O Oil
NAL Non-Aqueous Liquid
L Leachate
A Air
T Tissue
F Fish

Special Instructions:

Special Instructions:
1. Per Joan Kessner / Priority of Analysis: PCB, PAH, SVOA, ... ICP Metals, Hg, TPH
2.
3.
4. Please assume homogeneous material. Remove as
5. necessary from "Chunks" or use loose material
6.

Relinquished by	Received by	Date	Time
Fed Ex	[signature]	5-2-12	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-030-203	Page 1 of 1

Collector Stowe	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code 9C	**Data Turnaround** 15 Days		
Project Designation Remaining Sites Confirmation Sampling - Other	**Sampling Location** 300-280		**SAF No.** RC-030
Ice Chest No. RCC-07-002	**Field Logbook No.** EL-1601-06	**COA** C30280A000	**Method of Shipment** Fed Ex
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A110353		**Bill of Lading/Air Bill No.** See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Samples may contain hazardous chemicals at levels that pose a risk to human health and/or the environment. Please handle accordingly.

Special Handling and/or Storage

~~None~~ AJ 5-1-12 Cool 4°C

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C						
Type of Container	G/P	G	aG	aG	aG						
No. of Container(s)	1	~~1~~ 1	~~1~~ 1	~~1~~ 1	~~1~~ 1						
Volume	~~60mL~~ 1000mL	60mL	60mL	60mL	60mL						
SAMPLE ANALYSIS	See ~~item (1) in~~ Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PAHs - 8310	PCBs - 8082						

Sample No.	Matrix *	Sample Date	Sample Time										
J1P1M3	OTHER	5/1/12	0830	X									
J1P1M4	OTHER	5/1/12	0835	X									
J1P1M5	OTHER	5/1/12	0850	X									
J1P1M6	OTHER	5/1/12	0900	X									

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	1000 5/1/12	BHUDSON	5/1/12 1000
BHUDSON	5/1/12 1030	Fridge 3 DWSHEA	5/1/12 1030
Fridge 3 A. Freier	WCH 5-1-12 1335	Fed Ex	
Fed Ex	5-2-12 0940		5-2-12 0940

SPECIAL INSTRUCTIONS

Priority of Analysis: PCB, PAH, SVOA, ICP Metals, Hg, TPH.
Please call Joan Kessner for additionall instructions, if necessary.

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

Please assume homogeneous material. Remove as necessary from "chunk" or use loose material. Thank you. AJ 5-1-12

Custodian unavailable to remove samples from controlled storage. Shipper removed samples, taking custody for shipment to lab.

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

REVIEWED BY CMB DATE 5-1-12

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

000000004

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC. Hamford
Project/SAF/SOW/Release #: RC-030

Date: 5-2-12

LvL Batch #: 1205008

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7935 1772 2076
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 3.9	°C	Cooler # RCC-07-002
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvL) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A
15. Shipment meets LvL Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A
Person Contacted_____		Date_____	

SEMIVOLATILES

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 09:09

Analytical Report for Semivolatile Organic Compounds by SW846 8270C

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1P1M3	1205008-01	Other Solid	05/01/2012 08:30	05/02/2012 09:40
J1P1M4	1205008-02	Other Solid	05/01/2012 08:35	05/02/2012 09:40
J1P1M5	1205008-03	Other Solid	05/01/2012 08:50	05/02/2012 09:40
J1P1M6	1205008-04	Other Solid	05/01/2012 09:00	05/02/2012 09:40

LIONVILLE LABORATORY
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Exton, Pennsylvania 19341
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Case Narrative

Client: WC-HANFORD RC-030 K3892
LVL #: 1205008

W.O. #: 60049-001-001-0001-00
Date Received: 05-02-2012

SEMIVOLATILE

Four (4) other solid samples were collected on 05-01-2012.

The samples and associated QC samples were extracted 05-03-2012 and analyzed 05-11,14,15-2012 according to Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3540C, and the analysis procedure was based on SW846 Method 8270C for client specified target compounds.

Lionville Laboratory (LvL) is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager. LvL certifies that all test results meet the requirements of NELAC with any exception noted in the following statements:

1. The results presented in this report are derived from samples that met LvL's sample acceptance policy.

2. The samples were extracted and analyzed within holding time.

3. Due to the sample matrix, samples J1P1M4, J1P1M6, L205025-MS3 and L205025-MSD3 were extracted with a reduced initial volume. Samples J1P1M3, J1P1M4, J1P1M5, L205025-MS3 and L205025-MSD3 had an elevated final volume of 4 ml. Reporting limits have been adjusted to reflect these changes.

4. Non-target compounds were detected in these samples.

5. The following samples required dilution due to the nature of the matrix and/or high levels of target analytes: J1P1M3 required a 5-fold dilution; J1P1M3-RE1 required a 50-fold dilution; J1P1M4, L205025-MS3 and L205025-MSD3 required 20-fold dilutions; J1P1M5 and J1P1M6 required 3-fold dilutions. Reporting limits have been adjusted to reflect the necessary dilutions.

6. Eight (8) of fifty-four (54) surrogate recoveries were outside acceptance criteria. The surrogate recoveries were unobtainable for samples J1P1M3-RE1, L205025-MS3 and L205025-MSD3 due to dilutions required for analysis.

7. The method blank was below the reporting limit for all target compounds.

8. One (1) of sixty-four (64) blank spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR# 12MS100) has been enclosed.

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9. Forty-seven (47) of one hundred and twenty-eight (128) matrix spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR# 12MS100) has been enclosed. Several matrix spike recoveries were unobtainable due to dilution required for analysis.

10. The samples were reported on a wet weight 'as received' basis.

11. All initial calibrations associated with this data set were within acceptance criteria.

12. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

13. Internal standard area and retention time criteria were met.

14. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").

15. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hardcopy package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Iain Daniels
LvL Laboratory Manager

6/17/12
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 12-MS100

Initiator: Shawn Saylor
Date: 5-16-12
Client: WCHanford RC-030 K3842

Batch: 1205008
Samples: L205025-BS1, MS3, MSD3
Method: SW846/MCAWW/CLP/

Parameter: 8270C
Matrix: Other SOLID
Prep Batch: L205025

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract* __ Container Broken* __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample* __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

(1) low recovery of 2,4-dinitrophenol in L205025-BS1
(2) Spike recoveries outside QC acceptance Limits in L205025-MS 3 + MSD 3

2. Known or Probable Causes(s) (1) Acidic phenols are subject to erratic chromatographic behavior (2) possible matrix effect, samples required a 20 fold dilution, in addition an elevated final volume

RJS 5/17/12

3. Discussion and Proposed Action Other Description:

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

narrate

4. Project Manager Instructions...signature/date: 5/17/12

✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
__ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: 5/17/12 Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA for diposition.

Route
__ Lab Manager: Daniels
__ Project Mgr (circle): Johnson / Stone
__ Sample Prep (circle): Ford
__ Log-in: King

Route
__ Metals: Welsh / _____
__ Inorganic: Perrone / _____
__ GC/LC: Carey / _____
__ MS VOA: Rubino / _____
__ MS BNA: Carden / _____
__ Other: _____

QA-139-A-0208

GLOSSARY

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit, which is included and corrected for dilution and percent moisture.
J	=	Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
B	=	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
D	=	Identifies all compounds identified in an analysis at a secondary dilution factor.
I	=	Interference.
NQ	=	Result qualitatively confirmed but not able to quantify.
A	=	Indicates that a TIC is a suspected aldol-condensation product.
N	=	Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
X	=	This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
Y	=	Additional qualifiers used as required are explained in the case narrative.

GLOSSARY

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quantitation modifications are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quantitation modifications:

MP - Missed Peak: Manually added peak not found by automatic quantitation program.

PA - Peak Assignment: quantitation report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene, which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/17/2012 09:09

J1P1M3
1205008-01 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
1,2-Dichlorobenzene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
1,3-Dichlorobenzene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
1,4-Dichlorobenzene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2,4,5-Trichlorophenol	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2,4,6-Trichlorophenol	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2,4-Dichlorophenol	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2,4-Dimethylphenol	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2,4-Dinitrophenol	32400	U	32400	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2,4-Dinitrotoluene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2,6-Dinitrotoluene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2-Chloronaphthalene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2-Chlorophenol	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2-Methylnaphthalene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2-Methylphenol	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2-Nitroaniline	32400	U	32400	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
2-Nitrophenol	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
3,3'-Dichlorobenzidine	13000	U	13000	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
3-Nitroaniline	32400	U	32400	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
4,6-Dinitro-2-methylphenol	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
4-Bromophenyl Phenyl Ether	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
4-Chloro-3-methylphenol	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
4-Chloroaniline	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
4-Chlorophenyl Phenyl Ether	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
3- and/or 4-Methylphenol	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
4-Nitroaniline	32400	U	32400	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
4-Nitrophenol	32400	U	32400	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Acenaphthene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Acenaphthylene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Anthracene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Benz[a]anthracene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Benzo[a] pyrene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Benzo[b] fluoranthene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Benzo[g,h,i] perylene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Benzo[k] fluoranthene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Bis(2-chloroethoxy) methane	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/17/2012 09:09

J1P1M3
1205008-01 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Bis(2-chloroisopropyl) ether	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Bis(2-ethylhexyl) phthalate	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Butyl Benzyl Phthalate	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Carbazole	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Chrysene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Dibenz[a,h]anthracene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Dibenzofuran	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Diethyl Phthalate	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Dimethyl Phthalate	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Di-n-butyl Phthalate	**485000**	E, D	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Di-n-octyl Phthalate	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Fluoranthene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Fluorene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Hexachlorobenzene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Hexachlorobutadiene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Hexachlorocyclopentadiene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Hexachloroethane	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Indeno[1,2,3-cd]pyrene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Isophorone	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Naphthalene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Nitrobenzene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
N-Nitrosodi-n-propylamine	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
N-Nitrosodiphenylamine	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Pentachlorophenol	32400	U	32400	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Phenanthrene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Phenol	**4390**	J, D	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Pyrene	6490	U	6490	ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
TIC:Unknown 3	**16500**	J, D		ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
TIC:Unknown 2	**22200**	J, D		ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
TIC:Unknown 1	**16900**	J, D		ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
TIC:Triphenyl phosphate	**43500**	J, D		ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
TIC:Aldol Condensate 1	**188000**	A, B, J, D		ug/kg	5	L205025	05/03/2012	05/14/2012	8270C
Surrogate: 2-Fluorophenol	*79 %*		*25-121*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: Phenol-d5	*81 %*		*24-113*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: Nitrobenzene-d5	*77 %*		*23-120*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/17/2012 09:09

J1P1M3
1205008-01 (Other Solid)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*89 %*	*30-115*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*59 %*	*19-122*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: p-Terphenyl-d14	*89 %*	*18-137*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/17/2012 09:09

J1P1M3
1205008-01RE1 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
1,2-Dichlorobenzene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
1,3-Dichlorobenzene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
1,4-Dichlorobenzene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2,4,5-Trichlorophenol	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2,4,6-Trichlorophenol	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2,4-Dichlorophenol	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2,4-Dimethylphenol	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2,4-Dinitrophenol	1620000	U	1620000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2,4-Dinitrotoluene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2,6-Dinitrotoluene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2-Chloronaphthalene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2-Chlorophenol	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2-Methylnaphthalene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2-Methylphenol	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2-Nitroaniline	1620000	U	1620000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
2-Nitrophenol	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
3,3'-Dichlorobenzidine	649000	U	649000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
3-Nitroaniline	1620000	U	1620000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
4,6-Dinitro-2-methylphenol	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
4-Bromophenyl Phenyl Ether	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
4-Chloro-3-methylphenol	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
4-Chloroaniline	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
4-Chlorophenyl Phenyl Ether	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
3- and/or 4-Methylphenol	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
4-Nitroaniline	1620000	U	1620000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
4-Nitrophenol	1620000	U	1620000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Acenaphthene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Acenaphthylene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Anthracene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Benz[a]anthracene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Benzo[a] pyrene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Benzo[b] fluoranthene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Benzo[g,h,i] perylene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Benzo[k] fluoranthene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Bis(2-chloroethoxy) methane	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 09:09

J1P1M3
1205008-01RE1 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Bis(2-chloroisopropyl) ether	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Bis(2-ethylhexyl) phthalate	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Butyl Benzyl Phthalate	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Carbazole	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Chrysene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Dibenz[a,h]anthracene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Dibenzofuran	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Diethyl Phthalate	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Dimethyl Phthalate	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Di-n-butyl Phthalate	**1590000**	D	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Di-n-octyl Phthalate	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Fluoranthene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Fluorene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Hexachlorobenzene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Hexachlorobutadiene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Hexachlorocyclopentadiene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Hexachloroethane	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Indeno[1,2,3-cd]pyrene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Isophorone	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Naphthalene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Nitrobenzene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
N-Nitrosodi-n-propylamine	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
N-Nitrosodiphenylamine	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Pentachlorophenol	1620000	U	1620000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Phenanthrene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Phenol	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Pyrene	324000	U	324000	ug/kg	250	L205025	05/03/2012	05/15/2012	8270C
Surrogate: 2-Fluorophenol	*% **	*U*	*25-121*			*L205025*	*05/03/2012*	*05/15/2012*	*8270C*
Surrogate: Phenol-d5	*% **	*U*	*24-113*			*L205025*	*05/03/2012*	*05/15/2012*	*8270C*
Surrogate: Nitrobenzene-d5	*% **	*U*	*23-120*			*L205025*	*05/03/2012*	*05/15/2012*	*8270C*
Surrogate: 2-Fluorobiphenyl	*% **	*U*	*30-115*			*L205025*	*05/03/2012*	*05/15/2012*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*% **	*U*	*19-122*			*L205025*	*05/03/2012*	*05/15/2012*	*8270C*
Surrogate: p-Terphenyl-d14	*% **	*U*	*18-137*			*L205025*	*05/03/2012*	*05/15/2012*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 09:09

J1P1M4
1205008-02 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
1,2-Dichlorobenzene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
1,3-Dichlorobenzene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
1,4-Dichlorobenzene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2,4,5-Trichlorophenol	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2,4,6-Trichlorophenol	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2,4-Dichlorophenol	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2,4-Dimethylphenol	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2,4-Dinitrophenol	190000	U	190000	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2,4-Dinitrotoluene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2,6-Dinitrotoluene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2-Chloronaphthalene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2-Chlorophenol	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2-Methylnaphthalene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2-Methylphenol	**6200**	J, D	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2-Nitroaniline	190000	U	190000	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
2-Nitrophenol	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
3,3'-Dichlorobenzidine	75900	U	75900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
3-Nitroaniline	190000	U	190000	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
4,6-Dinitro-2-methylphenol	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
4-Bromophenyl Phenyl Ether	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
4-Chloro-3-methylphenol	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
4-Chloroaniline	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
4-Chlorophenyl Phenyl Ether	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
3- and/or 4-Methylphenol	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
4-Nitroaniline	190000	U	190000	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
4-Nitrophenol	190000	U	190000	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Acenaphthene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Acenaphthylene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Anthracene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Benz[a]anthracene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Benzo[a] pyrene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Benzo[b] fluoranthene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Benzo[g,h,i] perylene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Benzo[k] fluoranthene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Bis(2-chloroethoxy) methane	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 09:09

J1P1M4
1205008-02 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Bis(2-chloroisopropyl) ether	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Bis(2-ethylhexyl) phthalate	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Butyl Benzyl Phthalate	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Carbazole	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Chrysene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Dibenz[a,h]anthracene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Dibenzofuran	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Diethyl Phthalate	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Dimethyl Phthalate	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Di-n-butyl Phthalate	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Di-n-octyl Phthalate	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Fluoranthene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Fluorene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Hexachlorobenzene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Hexachlorobutadiene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Hexachlorocyclopentadiene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Hexachloroethane	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Indeno[1,2,3-cd]pyrene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Isophorone	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Naphthalene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Nitrobenzene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
N-Nitrosodi-n-propylamine	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
N-Nitrosodiphenylamine	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Pentachlorophenol	190000	U	190000	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Phenanthrene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Phenol	**85100**	D	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Pyrene	37900	U	37900	ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
TIC:Aldol Condensate 1	**321000**	A, B, J, D		ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
TIC:Unknown 1	**951000**	J, D		ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
TIC:Unknown 2	**281000**	J, D		ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
TIC:Unknown 3	**717000**	J, D		ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
TIC:Unknown 4	**243000**	J, D		ug/kg	20	L205025	05/03/2012	05/14/2012	8270C
Surrogate: 2-Fluorophenol	*89 %*		*25-121*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: Phenol-d5	*98 %*		*24-113*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: Nitrobenzene-d5	*80 %*		*23-120*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 09:09

J1P1M4
1205008-02 (Other Solid)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*99 %*	*30-115*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*54 %*	*19-122*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: p-Terphenyl-d14	*133 %*	*18-137*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	Reported: 05/17/2012 09:09

J1P1M5
1205008-03 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
1,2-Dichlorobenzene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
1,3-Dichlorobenzene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
1,4-Dichlorobenzene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4,5-Trichlorophenol	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4,6-Trichlorophenol	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4-Dichlorophenol	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4-Dimethylphenol	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4-Dinitrophenol	18700	U	18700	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4-Dinitrotoluene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,6-Dinitrotoluene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Chloronaphthalene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Chlorophenol	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Methylnaphthalene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Methylphenol	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Nitroaniline	18700	U	18700	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Nitrophenol	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
3,3'-Dichlorobenzidine	7460	U	7460	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
3-Nitroaniline	18700	U	18700	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4,6-Dinitro-2-methylphenol	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Bromophenyl Phenyl Ether	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Chloro-3-methylphenol	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Chloroaniline	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Chlorophenyl Phenyl Ether	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
3- and/or 4-Methylphenol	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Nitroaniline	18700	U	18700	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Nitrophenol	18700	U	18700	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Acenaphthene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Acenaphthylene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Anthracene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Benz[a]anthracene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Benzo[a] pyrene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Benzo[b] fluoranthene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Benzo[g,h,i] perylene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Benzo[k] fluoranthene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Bis(2-chloroethoxy) methane	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	Reported: 05/17/2012 09:09

J1P1M5
1205008-03 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Bis(2-chloroisopropyl) ether	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Bis(2-ethylhexyl) phthalate	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Butyl Benzyl Phthalate	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Carbazole	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Chrysene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Dibenz[a,h]anthracene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Dibenzofuran	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Diethyl Phthalate	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Dimethyl Phthalate	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Di-n-butyl Phthalate	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Di-n-octyl Phthalate	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Fluoranthene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Fluorene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Hexachlorobenzene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Hexachlorobutadiene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Hexachlorocyclopentadiene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Hexachloroethane	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Indeno[1,2,3-cd]pyrene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Isophorone	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Naphthalene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Nitrobenzene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
N-Nitrosodi-n-propylamine	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
N-Nitrosodiphenylamine	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Pentachlorophenol	18700	U	18700	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Phenanthrene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Phenol	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Pyrene	3730	U	3730	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
TIC:Unknown 2	**1140**	J, D		ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
TIC:Unknown 1	**5800**	J, D		ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
TIC:Aldol Condensate 3	**965**	A, J, D		ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
TIC:Aldol Condensate 1	**3600**	A, J, D		ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
TIC:Aldol Condensate 2	**317000**	A, B, J, D		ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Surrogate: 2-Fluorophenol	*77 %*		*25-121*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: Phenol-d5	*75 %*		*24-113*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: Nitrobenzene-d5	*71 %*		*23-120*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 09:09

J1P1M5

1205008-03 (Other Solid)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*83 %*	*30-115*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*29 %*	*19-122*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: p-Terphenyl-d14	*91 %*	*18-137*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 09:09

J1P1M6
1205008-04 (Other Solid)

Lionville Laboratory

Semivolatile Organic Compounds by SW846 8270C

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
1,2,4-Trichlorobenzene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
1,2-Dichlorobenzene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
1,3-Dichlorobenzene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
1,4-Dichlorobenzene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4,5-Trichlorophenol	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4,6-Trichlorophenol	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4-Dichlorophenol	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4-Dimethylphenol	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4-Dinitrophenol	6470	U	6470	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,4-Dinitrotoluene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2,6-Dinitrotoluene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Chloronaphthalene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Chlorophenol	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Methylnaphthalene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Methylphenol	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Nitroaniline	6470	U	6470	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
2-Nitrophenol	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
3,3'-Dichlorobenzidine	2590	U	2590	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
3-Nitroaniline	6470	U	6470	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4,6-Dinitro-2-methylphenol	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Bromophenyl Phenyl Ether	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Chloro-3-methylphenol	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Chloroaniline	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Chlorophenyl Phenyl Ether	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
3- and/or 4-Methylphenol	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Nitroaniline	6470	U	6470	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
4-Nitrophenol	6470	U	6470	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Acenaphthene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Acenaphthylene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Anthracene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Benz[a]anthracene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Benzo[a] pyrene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Benzo[b] fluoranthene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Benzo[g,h,i] perylene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Benzo[k] fluoranthene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Bis(2-chloroethoxy) methane	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/17/2012 09:09

J1P1M6
1205008-04 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Bis(2-chloroisopropyl) ether	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Bis(2-ethylhexyl) phthalate	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Butyl Benzyl Phthalate	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Carbazole	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Chrysene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Dibenz[a,h]anthracene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Dibenzofuran	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Diethyl Phthalate	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Dimethyl Phthalate	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Di-n-butyl Phthalate	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Di-n-octyl Phthalate	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Fluoranthene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Fluorene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Hexachlorobenzene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Hexachlorobutadiene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Hexachlorocyclopentadiene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Hexachloroethane	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Indeno[1,2,3-cd]pyrene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Isophorone	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Naphthalene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Nitrobenzene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
N-Nitrosodi-n-propylamine	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
N-Nitrosodiphenylamine	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Pentachlorophenol	6470	U	6470	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Phenanthrene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Phenol	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Pyrene	1290	U	1290	ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
TIC:Unknown 1	**756**	J, D		ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
TIC:Unknown 2	**302**	J, D		ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
TIC:Aldol Condensate 3	**983**	A, J, D		ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
TIC:Aldol Condensate 2	**129000**	A, B, J, D		ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
TIC:Aldol Condensate 1	**2580**	A, J, D		ug/kg	3	L205025	05/03/2012	05/14/2012	8270C
Surrogate: 2-Fluorophenol	*60 %*		*25-121*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: Phenol-d5	*68 %*		*24-113*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: Nitrobenzene-d5	*57 %*		*23-120*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/17/2012 09:09

J1P1M6
1205008-04 (Other Solid)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*59 %*	*30-115*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*32 %*	*19-122*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*
Surrogate: p-Terphenyl-d14	*102 %*	*18-137*			*L205025*	*05/03/2012*	*05/14/2012*	*8270C*

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/17/2012 09:09

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205025 - SW 3540C										
Blank (L205025-BLK1)				Prepared: 05/03/2012 Analyzed: 05/11/2012						
1,2,4-Trichlorobenzene	330	U	330	ug/kg						
1,2-Dichlorobenzene	330	U	330	ug/kg						
1,3-Dichlorobenzene	330	U	330	ug/kg						
1,4-Dichlorobenzene	330	U	330	ug/kg						
2,4,5-Trichlorophenol	330	U	330	ug/kg						
2,4,6-Trichlorophenol	330	U	330	ug/kg						
2,4-Dichlorophenol	330	U	330	ug/kg						
2,4-Dimethylphenol	330	U	330	ug/kg						
2,4-Dinitrophenol	1650	U	1650	ug/kg						
2,4-Dinitrotoluene	330	U	330	ug/kg						
2,6-Dinitrotoluene	330	U	330	ug/kg						
2-Chloronaphthalene	330	U	330	ug/kg						
2-Chlorophenol	330	U	330	ug/kg						
2-Methylnaphthalene	330	U	330	ug/kg						
2-Methylphenol	330	U	330	ug/kg						
2-Nitroaniline	1650	U	1650	ug/kg						
2-Nitrophenol	330	U	330	ug/kg						
3,3'-Dichlorobenzidine	660	U	660	ug/kg						
3-Nitroaniline	1650	U	1650	ug/kg						
4,6-Dinitro-2-methylphenol	330	U	330	ug/kg						
4-Bromophenyl Phenyl Ether	330	U	330	ug/kg						
4-Chloro-3-methylphenol	330	U	330	ug/kg						
4-Chloroaniline	330	U	330	ug/kg						
4-Chlorophenyl Phenyl Ether	330	U	330	ug/kg						
3- and/or 4-Methylphenol	330	U	330	ug/kg						
4-Nitroaniline	1650	U	1650	ug/kg						
4-Nitrophenol	1650	U	1650	ug/kg						
Acenaphthene	330	U	330	ug/kg						
Acenaphthylene	330	U	330	ug/kg						
Anthracene	330	U	330	ug/kg						
Benz[a]anthracene	330	U	330	ug/kg						
Benzo[a] pyrene	330	U	330	ug/kg						
Benzo[b] fluoranthene	330	U	330	ug/kg						
Benzo[g,h,i] perylene	330	U	330	ug/kg						
Benzo[k] fluoranthene	330	U	330	ug/kg						
Bis(2-chloroethoxy) methane	330	U	330	ug/kg						

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/17/2012 09:09

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205025 - SW 3540C										
Blank (L205025-BLK1)				Prepared: 05/03/2012 Analyzed: 05/11/2012						
Bis(2-chloroethyl) ether	330	U	330	ug/kg						
Bis(2-chloroisopropyl) ether	330	U	330	ug/kg						
Bis(2-ethylhexyl) phthalate	330	U	330	ug/kg						
Butyl Benzyl Phthalate	330	U	330	ug/kg						
Carbazole	330	U	330	ug/kg						
Chrysene	330	U	330	ug/kg						
Dibenz[a,h]anthracene	330	U	330	ug/kg						
Dibenzofuran	330	U	330	ug/kg						
Diethyl Phthalate	330	U	330	ug/kg						
Dimethyl Phthalate	330	U	330	ug/kg						
Di-n-butyl Phthalate	330	U	330	ug/kg						
Di-n-octyl Phthalate	330	U	330	ug/kg						
Fluoranthene	330	U	330	ug/kg						
Fluorene	330	U	330	ug/kg						
Hexachlorobenzene	330	U	330	ug/kg						
Hexachlorobutadiene	330	U	330	ug/kg						
Hexachlorocyclopentadiene	330	U	330	ug/kg						
Hexachloroethane	330	U	330	ug/kg						
Indeno[1,2,3-cd]pyrene	330	U	330	ug/kg						
Isophorone	330	U	330	ug/kg						
Naphthalene	330	U	330	ug/kg						
Nitrobenzene	330	U	330	ug/kg						
N-Nitrosodi-n-propylamine	330	U	330	ug/kg						
N-Nitrosodiphenylamine	330	U	330	ug/kg						
Pentachlorophenol	1650	U	1650	ug/kg						
Phenanthrene	330	U	330	ug/kg						
Phenol	330	U	330	ug/kg						
Pyrene	330	U	330	ug/kg						
Unknown 1 TICS	845	J		ug/kg						
Aldol Condensate 3	1690	A, J		ug/kg						
Aldol Condensate 2	446	A, J		ug/kg						
Aldol Condensate 1 RGS 5/17/12	31400	A, J		ug/kg						
Trichloro-1-propene	924	J		ug/kg						
Surrogate: 2-Fluorophenol	*1990*			*ug/kg*	*2500.0*		*80*	*25-121*		
Surrogate: Phenol-d5	*1370*			*ug/kg*	*2500.0*		*55*	*24-113*		
Surrogate: Nitrobenzene-d5	*749*			*ug/kg*	*1666.7*		*45*	*23-120*		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 09:09

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205025 - SW 3540C										
Blank (L205025-BLK1)				Prepared: 05/03/2012 Analyzed: 05/11/2012						
Surrogate: 2-Fluorobiphenyl	*853*			*ug/kg*	*1666.7*		*51*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*1270*			*ug/kg*	*2500.0*		*51*	*19-122*		
Surrogate: p-Terphenyl-d14	*1130*			*ug/kg*	*1666.7*		*68*	*18-137*		
LCS (L205025-BS1)				Prepared: 05/03/2012 Analyzed: 05/11/2012						
1,2,4-Trichlorobenzene	1520		330	ug/kg	2000.0		76	45-110		40
1,2-Dichlorobenzene	1330		330	ug/kg	2000.0		67	45-105		40
1,3-Dichlorobenzene	1310		330	ug/kg	2000.0		65	40-100		40
1,4-Dichlorobenzene	1370		330	ug/kg	2000.0		68	35-105		40
2,4,5-Trichlorophenol	1410		330	ug/kg	2000.0		70	30-140		40
2,4,6-Trichlorophenol	1110		330	ug/kg	2000.0		56	20-110		40
2,4-Dichlorophenol	1630		330	ug/kg	2000.0		81	40-110		40
2,4-Dimethylphenol	1490		330	ug/kg	2000.0		74	30-105		40
2,4-Dinitrophenol	1650	U	1650	ug/kg	2000.0		*	25-130		40
2,4-Dinitrotoluene	1490		330	ug/kg	2000.0		75	50-115		40
2,6-Dinitrotoluene	1450		330	ug/kg	2000.0		72	40-120		40
2-Chloronaphthalene	1390		330	ug/kg	2000.0		69	45-115		40
2-Chlorophenol	1410		330	ug/kg	2000.0		70	45-105		40
2-Methylnaphthalene	1240		330	ug/kg	2000.0		62	45-110		40
2-Methylphenol	1400		330	ug/kg	2000.0		70	40-120		40
2-Nitroaniline	1460	J	1650	ug/kg	2000.0		73	45-120		40
2-Nitrophenol	1630		330	ug/kg	2000.0		81	40-110		40
3,3'-Dichlorobenzidine	1520		660	ug/kg	2000.0		76	15-130		40
3-Nitroaniline	1640	J	1650	ug/kg	2000.0		82	40-130		40
4,6-Dinitro-2-methylphenol	581		330	ug/kg	2000.0		29	20-140		40
4-Bromophenyl Phenyl Ether	1460		330	ug/kg	2000.0		73	45-115		40
4-Chloro-3-methylphenol	1390		330	ug/kg	2000.0		70	35-115		40
4-Chloroaniline	1340		330	ug/kg	2000.0		67	10-100		40
4-Chlorophenyl Phenyl Ether	1480		330	ug/kg	2000.0		74	45-110		40
3- and/or 4-Methylphenol	1350		330	ug/kg	2000.0		67	40-120		40
4-Nitroaniline	1530	J	1650	ug/kg	2000.0		76	40-130		40
4-Nitrophenol	1600	J	1650	ug/kg	2000.0		80	15-140		40
Acenaphthene	1420		330	ug/kg	2000.0		71	45-110		40
Acenaphthylene	1230		330	ug/kg	2000.0		61	45-115		40
Anthracene	1480		330	ug/kg	2000.0		74	45-130		40
Benz[a]anthracene	1600		330	ug/kg	2000.0		80	45-130		40
Benzo[a] pyrene	1510		330	ug/kg	2000.0		76	45-130		20

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 09:09

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205025 - SW 3540C										
LCS (L205025-BS1)				Prepared: 05/03/2012 Analyzed: 05/11/2012						
Benzo[b] fluoranthene	1580		330	ug/kg	2000.0		79	40-130		20
Benzo[g,h,i] perylene	1470		330	ug/kg	2000.0		74	45-125		20
Benzo[k] fluoranthene	1630		330	ug/kg	2000.0		82	45-125		20
Bis(2-chloroethoxy) methane	1520		330	ug/kg	2000.0		76	45-110		40
Bis(2-chloroethyl) ether	1510		330	ug/kg	2000.0		75	40-110		40
Bis(2-chloroisopropyl) ether	1350		330	ug/kg	2000.0		67	30-115		40
Bis(2-ethylhexyl) phthalate	1770		330	ug/kg	2000.0		89	40-145		40
Butyl Benzyl Phthalate	1650		330	ug/kg	2000.0		83	50-125		40
Carbazole	1650		330	ug/kg	2000.0		82	40-140		40
Chrysene	1660		330	ug/kg	2000.0		83	45-130		40
Dibenz[a,h]anthracene	1660		330	ug/kg	2000.0		83	45-125		40
Dibenzofuran	1490		330	ug/kg	2000.0		75	45-120		40
Diethyl Phthalate	1460		330	ug/kg	2000.0		73	50-125		40
Dimethyl Phthalate	1340		330	ug/kg	2000.0		67	45-130		40
Di-n-butyl Phthalate	1510		330	ug/kg	2000.0		76	50-130		40
Di-n-octyl Phthalate	1800		330	ug/kg	2000.0		90	40-150		40
Fluoranthene	1520		330	ug/kg	2000.0		76	45-130		40
Fluorene	1480		330	ug/kg	2000.0		74	45-120		40
Hexachlorobenzene	1570		330	ug/kg	2000.0		78	45-130		40
Hexachlorobutadiene	1410		330	ug/kg	2000.0		71	45-105		40
Hexachlorocyclopentadiene	451		330	ug/kg	2000.0		23	10-100		40
Hexachloroethane	1290		330	ug/kg	2000.0		64	35-110		40
Indeno[1,2,3-cd]pyrene	1520		330	ug/kg	2000.0		76	45-130		40
Isophorone	1600		330	ug/kg	2000.0		80	40-110		40
Naphthalene	1550		330	ug/kg	2000.0		78	40-110		40
Nitrobenzene	1640		330	ug/kg	2000.0		82	40-105		40
N-Nitrosodi-n-propylamine	1480		330	ug/kg	2000.0		74	30-130		40
N-Nitrosodiphenylamine	1380		330	ug/kg	2000.0		69	50-120		40
Pentachlorophenol	719	J	1650	ug/kg	2000.0		36	25-120		40
Phenanthrene	1540		330	ug/kg	2000.0		77	50-120		40
Phenol	1290		330	ug/kg	2000.0		64	40-115		40
Pyrene	1480		330	ug/kg	2000.0		74	45-125		40
Surrogate: 2-Fluorophenol	*1920*			*ug/kg*	*2500.0*		*77*	*25-121*		
Surrogate: Phenol-d5	*2010*			*ug/kg*	*2500.0*		*80*	*24-113*		
Surrogate: Nitrobenzene-d5	*1480*			*ug/kg*	*1666.7*		*89*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*1190*			*ug/kg*	*1666.7*		*71*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*1290*			*ug/kg*	*2500.0*		*51*	*19-122*		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 09:09

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205025 - SW 3540C										
LCS (L205025-BS1)				Prepared: 05/03/2012 Analyzed: 05/11/2012						
Surrogate: p-Terphenyl-d14	*1350*			*ug/kg*	*1666.7*		*81*	*18-137*		
Matrix Spike (L205025-MS3)		**Source: 1205008-02**		Prepared: 05/03/2012 Analyzed: 05/14/2012						
1,2,4-Trichlorobenzene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-110		40
1,2-Dichlorobenzene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-105		40
1,3-Dichlorobenzene	37200	U	37200	ug/kg	2816.9	37900 U	*	40-100		40
1,4-Dichlorobenzene	37200	U	37200	ug/kg	2816.9	37900 U	*	35-105		40
2,4,5-Trichlorophenol	37200	U	37200	ug/kg	2816.9	37900 U	*	30-140		40
2,4,6-Trichlorophenol	37200	U	37200	ug/kg	2816.9	37900 U	*	20-110		40
2,4-Dichlorophenol	37200	U	37200	ug/kg	2816.9	37900 U	*	40-110		40
2,4-Dimethylphenol	37200	U	37200	ug/kg	2816.9	37900 U	*	30-105		40
2,4-Dinitrophenol	186000	U	186000	ug/kg	2816.9	190000 U	*	25-130		40
2,4-Dinitrotoluene	37200	U	37200	ug/kg	2816.9	37900 U	*	50-115		40
2,6-Dinitrotoluene	37200	U	37200	ug/kg	2816.9	37900 U	*	40-120		40
2-Chloronaphthalene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-115		40
2-Chlorophenol	37200	U	37200	ug/kg	2816.9	37900 U	*	45-105		40
2-Methylnaphthalene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-110		40
2-Methylphenol	5760	J, D	37200	ug/kg	2816.9	6200	-16*	40-120		40
2-Nitroaniline	186000	U	186000	ug/kg	2816.9	190000 U	*	45-120		40
2-Nitrophenol	37200	U	37200	ug/kg	2816.9	37900 U	*	40-110		40
3,3'-Dichlorobenzidine	74400	U	74400	ug/kg	2816.9	75900 U	*	15-130		40
3-Nitroaniline	186000	U	186000	ug/kg	2816.9	190000 U	*	40-130		40
4,6-Dinitro-2-methylphenol	37200	U	37200	ug/kg	2816.9	37900 U	*	20-140		40
4-Bromophenyl Phenyl Ether	37200	U	37200	ug/kg	2816.9	37900 U	*	45-115		40
4-Chloro-3-methylphenol	37200	U	37200	ug/kg	2816.9	37900 U	*	35-115		40
4-Chloroaniline	37200	U	37200	ug/kg	2816.9	37900 U	*	10-100		40
4-Chlorophenyl Phenyl Ether	37200	U	37200	ug/kg	2816.9	37900 U	*	45-110		40
3- and/or 4-Methylphenol	37200	U	37200	ug/kg	2816.9	37900 U	*	40-120		40
4-Nitroaniline	186000	U	186000	ug/kg	2816.9	190000 U	*	40-130		40
4-Nitrophenol	186000	U	186000	ug/kg	2816.9	190000 U	*	15-140		40
Acenaphthene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-110		40
Acenaphthylene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-115		40
Anthracene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-130		40
Benz[a]anthracene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-130		40
Benzo[a] pyrene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-130		40
Benzo[b] fluoranthene	37200	U	37200	ug/kg	2816.9	37900 U	*	40-130		40
Benzo[g,h,i] perylene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-125		40

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 09:09

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205025 - SW 3540C										
Matrix Spike (L205025-MS3)		**Source: 1205008-02**		Prepared: 05/03/2012 Analyzed: 05/14/2012						
Benzo[k] fluoranthene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-125		40
Bis(2-chloroethoxy) methane	48600	D	37200	ug/kg	2816.9	37900 U	1720*	45-110		40
Bis(2-chloroethyl) ether	37200	U	37200	ug/kg	2816.9	37900 U	*	40-110		40
Bis(2-chloroisopropyl) ether	37200	U	37200	ug/kg	2816.9	37900 U	*	30-115		40
Bis(2-ethylhexyl) phthalate	37200	U	37200	ug/kg	2816.9	37900 U	*	40-145		40
Butyl Benzyl Phthalate	37200	U	37200	ug/kg	2816.9	37900 U	*	50-125		40
Carbazole	37200	U	37200	ug/kg	2816.9	37900 U	*	40-140		40
Chrysene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-130		40
Dibenz[a,h]anthracene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-125		40
Dibenzofuran	37200	U	37200	ug/kg	2816.9	37900 U	*	45-120		40
Diethyl Phthalate	37200	U	37200	ug/kg	2816.9	37900 U	*	50-125		40
Dimethyl Phthalate	37200	U	37200	ug/kg	2816.9	37900 U	*	45-130		40
Di-n-butyl Phthalate	37200	U	37200	ug/kg	2816.9	37900 U	*	50-130		40
Di-n-octyl Phthalate	37200	U	37200	ug/kg	2816.9	37900 U	*	40-150		40
Fluoranthene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-130		40
Fluorene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-120		40
Hexachlorobenzene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-130		40
Hexachlorobutadiene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-105		40
Hexachlorocyclopentadiene	37200	U	37200	ug/kg	2816.9	37900 U	*	10-100		40
Hexachloroethane	37200	U	37200	ug/kg	2816.9	37900 U	*	35-110		40
Indeno[1,2,3-cd]pyrene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-130		40
Isophorone	37200	U	37200	ug/kg	2816.9	37900 U	*	40-110		40
Naphthalene	6960	J, D	37200	ug/kg	2816.9	37900 U	247*	40-110		40
Nitrobenzene	5880	J, D	37200	ug/kg	2816.9	37900 U	209*	40-105		40
N-Nitrosodi-n-propylamine	37200	U	37200	ug/kg	2816.9	37900 U	*	30-130		40
N-Nitrosodiphenylamine	37200	U	37200	ug/kg	2816.9	37900 U	*	50-120		40
Pentachlorophenol	186000	U	186000	ug/kg	2816.9	190000 U	*	25-120		40
Phenanthrene	37200	U	37200	ug/kg	2816.9	37900 U	*	50-120		40
Phenol	35300	J, D	37200	ug/kg	2816.9	85100	-1770*	40-115		40
Pyrene	37200	U	37200	ug/kg	2816.9	37900 U	*	45-125		40
Surrogate: 2-Fluorophenol	*3320*			*ug/kg*	*3521.1*		*94*	*25-121*		
Surrogate: Phenol-d5	*3530*			*ug/kg*	*3521.1*		*100*	*24-113*		
Surrogate: Nitrobenzene-d5	*14500*			*ug/kg*	*2347.4*		*619**	*23-120*		
Surrogate: 2-Fluorobiphenyl	*2300*			*ug/kg*	*2347.4*		*98*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*2550*			*ug/kg*	*3521.1*		*73*	*19-122*		
Surrogate: p-Terphenyl-d14	*2550*			*ug/kg*	*2347.4*		*109*	*18-137*		

LIONVILLE LABORATORY
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	Reported: 05/17/2012 09:09

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205025 - SW 3540C										
Matrix Spike Dup (L205025-MSD3)		**Source: 1205008-02**		Prepared: 05/03/2012 Analyzed: 05/14/2012						
1,2,4-Trichlorobenzene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-110		40
1,2-Dichlorobenzene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-105		40
1,3-Dichlorobenzene	37700	U	37700	ug/kg	2858.5	37900 U	*	40-100		40
1,4-Dichlorobenzene	37700	U	37700	ug/kg	2858.5	37900 U	*	35-105		40
2,4,5-Trichlorophenol	37700	U	37700	ug/kg	2858.5	37900 U	*	30-140		40
2,4,6-Trichlorophenol	37700	U	37700	ug/kg	2858.5	37900 U	*	20-110		40
2,4-Dichlorophenol	37700	U	37700	ug/kg	2858.5	37900 U	*	40-110		40
2,4-Dimethylphenol	37700	U	37700	ug/kg	2858.5	37900 U	*	30-105		40
2,4-Dinitrophenol	189000	U	189000	ug/kg	2858.5	190000 U	*	25-130		40
2,4-Dinitrotoluene	37700	U	37700	ug/kg	2858.5	37900 U	*	50-115		40
2,6-Dinitrotoluene	37700	U	37700	ug/kg	2858.5	37900 U	*	40-120		40
2-Chloronaphthalene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-115		40
2-Chlorophenol	37700	U	37700	ug/kg	2858.5	37900 U	*	45-105		40
2-Methylnaphthalene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-110		40
2-Methylphenol	37700	U	37700	ug/kg	2858.5	6200	-217*	40-120	-173	40
2-Nitroaniline	189000	U	189000	ug/kg	2858.5	190000 U	*	45-120		40
2-Nitrophenol	37700	U	37700	ug/kg	2858.5	37900 U	*	40-110		40
3,3'-Dichlorobenzidine	75500	U	75500	ug/kg	2858.5	75900 U	*	15-130		40
3-Nitroaniline	189000	U	189000	ug/kg	2858.5	190000 U	*	40-130		40
4,6-Dinitro-2-methylphenol	37700	U	37700	ug/kg	2858.5	37900 U	*	20-140		40
4-Bromophenyl Phenyl Ether	37700	U	37700	ug/kg	2858.5	37900 U	*	45-115		40
4-Chloro-3-methylphenol	37700	U	37700	ug/kg	2858.5	37900 U	*	35-115		40
4-Chloroaniline	37700	U	37700	ug/kg	2858.5	37900 U	*	10-100		40
4-Chlorophenyl Phenyl Ether	37700	U	37700	ug/kg	2858.5	37900 U	*	45-110		40
3- and/or 4-Methylphenol	37700	U	37700	ug/kg	2858.5	37900 U	*	40-120		40
4-Nitroaniline	189000	U	189000	ug/kg	2858.5	190000 U	*	40-130		40
4-Nitrophenol	189000	U	189000	ug/kg	2858.5	190000 U	*	15-140		40
Acenaphthene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-110		40
Acenaphthylene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-115		40
Anthracene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-130		40
Benz[a]anthracene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-130		40
Benzo[a] pyrene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-130		40
Benzo[b] fluoranthene	37700	U	37700	ug/kg	2858.5	37900 U	*	40-130		40
Benzo[g,h,i] perylene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-125		40
Benzo[k] fluoranthene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-125		40
Bis(2-chloroethoxy) methane	46100	D	37700	ug/kg	2858.5	37900 U	1610*	45-110	7	40

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/17/2012 09:09

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205025 - SW 3540C										
Matrix Spike Dup (L205025-MSD3)		**Source: 1205008-02**		Prepared: 05/03/2012 Analyzed: 05/14/2012						
Bis(2-chloroethyl) ether	37700	U	37700	ug/kg	2858.5	37900 U	*	40-110		40
Bis(2-chloroisopropyl) ether	37700	U	37700	ug/kg	2858.5	37900 U	*	30-115		40
Bis(2-ethylhexyl) phthalate	37700	U	37700	ug/kg	2858.5	37900 U	*	40-145		40
Butyl Benzyl Phthalate	37700	U	37700	ug/kg	2858.5	37900 U	*	50-125		40
Carbazole	37700	U	37700	ug/kg	2858.5	37900 U	*	40-140		40
Chrysene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-130		40
Dibenz[a,h]anthracene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-125		40
Dibenzofuran	37700	U	37700	ug/kg	2858.5	37900 U	*	45-120		40
Diethyl Phthalate	37700	U	37700	ug/kg	2858.5	37900 U	*	50-125		40
Dimethyl Phthalate	37700	U	37700	ug/kg	2858.5	37900 U	*	45-130		40
Di-n-butyl Phthalate	37700	U	37700	ug/kg	2858.5	37900 U	*	50-130		40
Di-n-octyl Phthalate	37700	U	37700	ug/kg	2858.5	37900 U	*	40-150		40
Fluoranthene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-130		40
Fluorene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-120		40
Hexachlorobenzene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-130		40
Hexachlorobutadiene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-105		40
Hexachlorocyclopentadiene	37700	U	37700	ug/kg	2858.5	37900 U	*	10-100		40
Hexachloroethane	37700	U	37700	ug/kg	2858.5	37900 U	*	35-110		40
Indeno[1,2,3-cd]pyrene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-130		40
Isophorone	37700	U	37700	ug/kg	2858.5	37900 U	*	40-110		40
Naphthalene	8500	D, J	37700	ug/kg	2858.5	37900 U	297*	40-110	18	40
Nitrobenzene	6660	J, D	37700	ug/kg	2858.5	37900 U	233*	40-105	11	40
N-Nitrosodi-n-propylamine	37700	U	37700	ug/kg	2858.5	37900 U	*	30-130		40
N-Nitrosodiphenylamine	37700	U	37700	ug/kg	2858.5	37900 U	*	50-120		40
Pentachlorophenol	189000	U	189000	ug/kg	2858.5	190000 U	*	25-120		40
Phenanthrene	37700	U	37700	ug/kg	2858.5	37900 U	*	50-120		40
Phenol	17800	J, D	37700	ug/kg	2858.5	85100	-2360*	40-115	-29	40
Pyrene	37700	U	37700	ug/kg	2858.5	37900 U	*	45-125		40
Surrogate: 2-Fluorophenol	*3370*			*ug/kg*	*3573.1*		*94*	*25-121*		
Surrogate: Phenol-d5	*3330*			*ug/kg*	*3573.1*		*93*	*24-113*		
Surrogate: Nitrobenzene-d5	*13600*			*ug/kg*	*2382.1*		*570**	*23-120*		
Surrogate: 2-Fluorobiphenyl	*2480*			*ug/kg*	*2382.1*		*104*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*2830*			*ug/kg*	*3573.1*		*79*	*19-122*		
Surrogate: p-Terphenyl-d14	*3070*			*ug/kg*	*2382.1*		*129*	*18-137*		

PREPARATION BENCH SHEET

L205025

Lionville Laboratory

Printed: 5/16/2012 3:44:45PM

Matrix: Solid **Prepared using: SVOCGCMS - SW 3540C** **Surrogate used: 1200548**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1205006-01	8270C TCL SVOC	05/03/2012 13:03	30.27	1				500	WC-Hanford, Inc.	
1205007-01	8270C TCL SVOC	05/03/2012 13:03	30.42	4				500	WC-Hanford, Inc.	
1205008-01	8270C TCL SVOC	05/03/2012 13:03	30.52	4				500	WC-Hanford, Inc.	
1205008-01RE1	8270C TCL SVOC	05/03/2012 13:03	30.52	4				500	WC-Hanford, Inc.	Added 5/16/2012 by S_S
1205008-02	8270C TCL SVOC	05/03/2012 13:03	20.88	4				500	WC-Hanford, Inc.	
1205008-03	8270C TCL SVOC	05/03/2012 13:03	31.84	4				500	WC-Hanford, Inc.	
1205008-04	8270C TCL SVOC	05/03/2012 13:03	22.94	1				500	WC-Hanford, Inc.	
L205025-BLK1	QC	05/03/2012 13:03	30	1				500		
L205025-BS1	QC	05/03/2012 13:03	30	1	1200337		600	500		
L205025-MS1	QC	05/03/2012 13:03	30.5	1	1200337	1205006-01	600	500		
L205025-MS2	QC	05/03/2012 13:03	30.73	4	1200337	1205007-01	600	500		
L205025-MS3	QC	05/03/2012 13:03	21.3	4	1200337	1205008-02	600	500		
L205025-MSD1	QC	05/03/2012 13:03	31.21	1	1200337	1205006-01	600	500		
L205025-MSD2	QC	05/03/2012 13:03	31.24	4	1200337	1205007-01	600	500		
L205025-MSD3	QC	05/03/2012 13:03	20.99	4	1200337	1205008-02	600	500		

Added 1205008-01 RE1 BWS 5/10/12

Extracts Relinquished By Date

Extracts Received By Date

PREPARATION BENCH SHEET

L205025

Lionville Laboratory

Printed: 5/7/2012 1:37:43PM

Matrix: Solid

Prepared using: SVOCGCMS - SW 3540C

Surrogate used: 1200548

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1205006-01	8270C TCL SVOC	05/03/2012 13:03	30.27	1				500	WC-Hanford, Inc.	
1205007-01	8270C TCL SVOC	05/03/2012 13:03	30.42	4				500	WC-Hanford, Inc.	
1205008-01	8270C TCL SVOC	05/03/2012 13:03	30.52	4				500	WC-Hanford, Inc.	
1205008-02	8270C TCL SVOC	05/03/2012 13:03	20.88	4				500	WC-Hanford, Inc.	
1205008-03	8270C TCL SVOC	05/03/2012 13:03	31.84	4				500	WC-Hanford, Inc.	
1205008-04	8270C TCL SVOC	05/03/2012 13:03	22.94	1				500	WC-Hanford, Inc.	
L205025-BLK1	QC	05/03/2012 13:03	30	1				500		
L205025-BS1	QC	05/03/2012 13:03	30	1	1200337		600	500		
L205025-MS1	QC	05/03/2012 13:03	30.5	1	1200337	1205006-01	600	500		
L205025-MS2	QC	05/03/2012 13:03	30.73	4	1200337	1205007-01	600	500		
L205025-MS3	QC	05/03/2012 13:03	21.3	4	1200337	1205008-02	600	500		
L205025-MSD1	QC	05/03/2012 13:03	31.21	1	1200337	1205006-01	600	500		
L205025-MSD2	QC	05/03/2012 13:03	31.24	4	1200337	1205007-01	600	500		
L205025-MSD3	QC	05/03/2012 13:03	20.99	4	1200337	1205008-02	600	500		

Extracts Relinquished By 5/7/12 1350 Date

Extracts Received By 5/7/12 1400 Date

PCBS

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/14/2012 20:19

Analytical Report for Polychlorinated Biphenyls by SW846 8082

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1P1M3	1205008-01	Other Solid	05/01/2012 08:30	05/02/2012 09:40
J1P1M4	1205008-02	Other Solid	05/01/2012 08:35	05/02/2012 09:40
J1P1M5	1205008-03	Other Solid	05/01/2012 08:50	05/02/2012 09:40
J1P1M6	1205008-04	Other Solid	05/01/2012 09:00	05/02/2012 09:40

LIONVILLE LABORATORY
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Case Narrative

Client: WC-HANFORD RC-030 K3892
LVL #: 1205008

W.O. #: 60049-001-001-0001-00
Received: 05-02-2012

PCBs

Four (4) other solid samples were collected on 05-01-2012.

The samples and associated QC samples were extracted 05-03-2012 and analyzed 05-08,10-2012 according to criteria set forth in Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3540C and the analysis procedure was based on SW846 Method 8082 for client specified target compounds. All samples received Copper-Sulfur and Sulfuric Acid cleanups based on SW846 methods 3660A and 3665A, respectively.

Lionville Laboratory (LvL) is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager. LvL certifies that all test results meet the requirements of NELAC with any exception noted in the following statements:

1. The results presented in this report are derived from samples that met LvL's sample acceptance policy.

2. All required holding times for extraction and analysis have been met.

3. Due to the nature of the sample matrix, samples J1P1M3, J1P1M4, J1P1M5, J1P1M6, L205024-MS5 and L205024-MSD5 were extracted with reduced initial volumes. Reporting limits have been adjusted to reflect these changes.

4. The sample J1P1M4 required a 5-fold instrument dilution due to high concentrations of target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.

5. All obtainable surrogate recoveries were within acceptance criteria.

6. The method blank was below the reporting limit for all target compounds.

7. All blank spike recoveries were within acceptance criteria.

8. All matrix spike recoveries were within acceptance criteria.

9. All initial calibrations associated with this data set were within acceptance criteria.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of pages.

10. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

11. The samples are reported on a wet weight 'as received' basis.

12. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or a designee as verified by the following signature.

for Iain Daniels
LvL Laboratory Manager

5/16/12
Date

LIONVILLE LABORATORY INC.

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
B	=	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
. I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.
P	=	This flag is used for a dual column analysis (i.e. pesticides/PCB/herbicides) when there is greater than 40% difference for detected concentrations between the two GC columns; the lower of the two values is reported on Form 1 and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
NPM	=	No pattern match for multi-component target analytes.

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/14/2012 20:19

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
D	Results reported from a dilution; related reporting limits are elevated due to the presence of an interference or a high target value.
B	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag)
*	Value outside QC acceptance criteria
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
wet	Sample results reported on a wet weight basis
RPD	Relative Percent Difference

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/14/2012 20:19

J1P1M3
1205008-01 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polychlorinated Biphenyls by SW846 8082									
Aroclor 1016	39.7	U	39.7	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1221	39.7	U	39.7	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1232	39.7	U	39.7	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1242	**40.5**		39.7	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1248	39.7	U	39.7	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1254	**219**		39.7	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1260	**87.3**		39.7	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1262	39.7	U	39.7	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1268	39.7	U	39.7	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Surrogate: Decachlorobiphenyl	*102 %*		*43-144*			*L205024*	*05/03/2012*	*05/10/2012*	*8082*
Surrogate: Tetrachloro-meta-xylene	*94 %*		*52-141*			*L205024*	*05/03/2012*	*05/10/2012*	*8082*

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264 Welsh Pool Road
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Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/14/2012 20:19

J1P1M4
1205008-02 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polychlorinated Biphenyls by SW846 8082									
Aroclor 1016	197	U	197	ug/kg wet	5	L205024	05/03/2012	05/10/2012	8082
Aroclor 1221	197	U	197	ug/kg wet	5	L205024	05/03/2012	05/10/2012	8082
Aroclor 1232	197	U	197	ug/kg wet	5	L205024	05/03/2012	05/10/2012	8082
Aroclor 1242	**1540**	D	197	ug/kg wet	5	L205024	05/03/2012	05/10/2012	8082
Aroclor 1248	197	U	197	ug/kg wet	5	L205024	05/03/2012	05/10/2012	8082
Aroclor 1254	**765**	D	197	ug/kg wet	5	L205024	05/03/2012	05/10/2012	8082
Aroclor 1260	**125**	J, D	197	ug/kg wet	5	L205024	05/03/2012	05/10/2012	8082
Aroclor 1262	197	U	197	ug/kg wet	5	L205024	05/03/2012	05/10/2012	8082
Aroclor 1268	197	U	197	ug/kg wet	5	L205024	05/03/2012	05/10/2012	8082
Surrogate: Decachlorobiphenyl	*95 %*		*43-144*			*L205024*	*05/03/2012*	*05/10/2012*	*8082*
Surrogate: Tetrachloro-meta-xylene	*71 %*		*52-141*			*L205024*	*05/03/2012*	*05/10/2012*	*8082*

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/14/2012 20:19

J1P1M5
1205008-03 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polychlorinated Biphenyls by SW846 8082									
Aroclor 1016	19.8	U	19.8	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1221	19.8	U	19.8	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1232	19.8	U	19.8	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1242	**18.6**	J	19.8	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1248	19.8	U	19.8	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1254	**121**		19.8	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1260	**43.0**		19.8	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1262	19.8	U	19.8	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1268	19.8	U	19.8	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Surrogate: Decachlorobiphenyl	*88 %*		*43-144*			*L205024*	*05/03/2012*	*05/10/2012*	*8082*
Surrogate: Tetrachloro-meta-xylene	*95 %*		*52-141*			*L205024*	*05/03/2012*	*05/10/2012*	*8082*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/14/2012 20:19

J1P1M6
1205008-04 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polychlorinated Biphenyls by SW846 8082									
Aroclor 1016	18.3	U	18.3	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1221	18.3	U	18.3	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1232	18.3	U	18.3	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1242	18.3	U	18.3	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1248	18.3	U	18.3	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1254	**14.1**	J	18.3	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1260	**24.1**		18.3	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1262	18.3	U	18.3	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Aroclor 1268	18.3	U	18.3	ug/kg wet	1	L205024	05/03/2012	05/10/2012	8082
Surrogate: Decachlorobiphenyl	*97 %*		*43-144*			*L205024*	*05/03/2012*	*05/10/2012*	*8082*
Surrogate: Tetrachloro-meta-xylene	*89 %*		*52-141*			*L205024*	*05/03/2012*	*05/10/2012*	*8082*

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/14/2012 20:19

Polychlorinated Biphenyls by SW846 8082 - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205024 - SW 3540C										
Blank (L205024-BLK1)				Prepared: 05/03/2012 Analyzed: 05/08/2012						
Aroclor 1016	13.3	U	13.3	ug/kg wet						
Aroclor 1221	13.3	U	13.3	ug/kg wet						
Aroclor 1232	13.3	U	13.3	ug/kg wet						
Aroclor 1242	13.3	U	13.3	ug/kg wet						
Aroclor 1248	13.3	U	13.3	ug/kg wet						
Aroclor 1254	13.3	U	13.3	ug/kg wet						
Aroclor 1260	13.3	U	13.3	ug/kg wet						
Aroclor 1262	13.3	U	13.3	ug/kg wet						
Aroclor 1268	13.3	U	13.3	ug/kg wet						
Surrogate: Decachlorobiphenyl	*33.3*			*ug/kg wet*	*33.333*		*100*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*35.7*			*ug/kg wet*	*33.337*		*107*	*52-141*		
LCS (L205024-BS1)				Prepared: 05/03/2012 Analyzed: 05/08/2012						
Aroclor 1016	143		13.3	ug/kg wet	166.67		86	50-138		40
Aroclor 1260	161		13.3	ug/kg wet	166.67		97	50-148		40
Surrogate: Decachlorobiphenyl	*32.7*			*ug/kg wet*	*33.333*		*98*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*35.0*			*ug/kg wet*	*33.337*		*105*	*52-141*		
Matrix Spike (L205024-MS5)		**Source: 1205008-01**		Prepared: 05/03/2012 Analyzed: 05/10/2012						
Aroclor 1016	522		39.9	ug/kg wet	499.50	39.7 U	105	50-138		40
Aroclor 1260	537		39.9	ug/kg wet	499.50	87.3	90	50-148		40
Surrogate: Decachlorobiphenyl	*94.9*			*ug/kg wet*	*99.900*		*95*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*89.0*			*ug/kg wet*	*99.910*		*89*	*52-141*		
Matrix Spike Dup (L205024-MSD5)		**Source: 1205008-01**		Prepared: 05/03/2012 Analyzed: 05/10/2012						
Aroclor 1016	470		39.3	ug/kg wet	492.61	39.7 U	95	50-138	9	40
Aroclor 1260	544		39.3	ug/kg wet	492.61	87.3	93	50-148	3	40
Surrogate: Decachlorobiphenyl	*97.1*			*ug/kg wet*	*98.522*		*99*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*94.4*			*ug/kg wet*	*98.532*		*96*	*52-141*		

PREPARATION BENCH SHEET

L205024

Lionville Laboratory

Printed: 5/8/2012 11:54:33AM

00000049

Matrix: Solid **Prepared using: GC - SW 3540C** **Surrogate used: 1200502**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1204069-01	8082 PCBs	05/03/2012 12:20	15.23	10				250	WC-Hanford, Inc.	RADH
1204080-01	8082 PCBs	05/03/2012 12:20	30.12	10				250	WC-Hanford, Inc.	
1205006-01	8082 PCBs	05/03/2012 12:20	25.17	10				250	WC-Hanford, Inc.	
1205007-01	8082 PCBs	05/03/2012 12:20	10.86	10				250	WC-Hanford, Inc.	
1205008-01	8082 PCBs	05/03/2012 12:20	10.05	10				250	WC-Hanford, Inc.	
1205008-02	8082 PCBs	05/03/2012 12:20	10.13	10				250	WC-Hanford, Inc.	
1205008-03	8082 PCBs	05/03/2012 12:20	20.13	10				250	WC-Hanford, Inc.	
1205008-04	8082 PCBs	05/03/2012 12:20	21.85	10				250	WC-Hanford, Inc.	
L205024-BLK1	QC	05/03/2012 12:20	30	10				250		
L205024-BS1	QC	05/03/2012 12:20	30	10	1200123		250	250		
L205024-MS1	QC	05/03/2012 12:20	15.3	10	1200123	1204069-01	250	250		
L205024-MS2	QC	05/03/2012 12:20	30.73	10	1200123	1204080-01	250	250		
L205024-MS3	QC	05/03/2012 12:20	25.17	10	1200123	1205006-01	250	250		
L205024-MS4	QC	05/03/2012 12:20	10.17	10	1200123	1205007-01	250	250		
L205024-MS5	QC	05/03/2012 12:20	10.01	10	1200123	1205008-01	250	250		
L205024-MSD1	QC	05/03/2012 12:20	15.19	10	1200123	1204069-01	250	250		
L205024-MSD2	QC	05/03/2012 12:20	30.47	10	1200123	1204080-01	250	250		
L205024-MSD3	QC	05/03/2012 12:20	25.24	10	1200123	1205006-01	250	250		
L205024-MSD4	QC	05/03/2012 12:20	10.43	10	1200123	1205007-01	250	250		
L205024-MSD5	QC	05/03/2012 12:20	10.15	10	1200123	1205008-01	250	250		

S cleaned 05.08.12 SZ (CH 616W031)

5/8/12 1210 — Extracts Relinquished By — Date

S Zak 05.08.12 12:10 — Extracts Received By — Date

DIESEL

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/14/2012 19:32

Analytical Report for Extractable Petroleum Hydrocarbons by SW846 8015

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1P1M3	1205008-01	Other Solid	05/01/2012 08:30	05/02/2012 09:40
J1P1M4	1205008-02	Other Solid	05/01/2012 08:35	05/02/2012 09:40
J1P1M5	1205008-03	Other Solid	05/01/2012 08:50	05/02/2012 09:40
J1P1M6	1205008-04	Other Solid	05/01/2012 09:00	05/02/2012 09:40

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Case Narrative

Client: WC-HANFORD RC-030 K3892
LVL #: 1205008

W.O. #: 60049-001-001-0001-00
Date Received: 05-02-2012

DIESEL RANGE ORGANICS

Four (4) other solid samples were collected on 05-01-2012.

The samples and associated QC samples were extracted 05-03-2012 and analyzed 05-12,13-2012 according to criteria set forth in Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3540C and the analysis procedure was based on SW846 Method 8015B for Diesel Range Organics.

Lionville Laboratory (LvL) is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager. LvL certifies that all test results meet the requirements of NELAC with any exception noted in the following statements:

1. The results presented in this report are derived from samples that met LvL's sample acceptance policy.

2. All required holding times for extraction and analysis have been met.

3. Due to the nature of the matrix, samples J1P1M3, J1P1M4, J1P1M5, J1P1M6, L205023-MS4 and L205023-MSD4 were extracted with reduced initial volumes. Samples J1P1M4, J1P1M5, L205023-MS4 and L205023-MSD4 had an elevated final volumes of 4.0 mls. Reporting limits have been adjusted to reflect the changes.

4. One (1) of eight (8) surrogate recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR#12GC084) has been enclosed.

5. The method blank was below the reporting limits for all target compounds.

6. All blank spike recoveries were within acceptance criteria.

7. Two (2) of two (2) matrix spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR#12GC084) has been enclosed.

8. Three (3) samples required instrument dilutions due to high concentrations of target analytes. The sample J1P1M4 required a 100-fold dilution; sample J1P1M3 required a 50-fold dilution; samples J1P1M5, L205023-MS4 and L205023-MSD4 required a 2-fold dilution. Reporting limits have been adjusted to reflect the necessary dilutions.

9. All initial calibrations associated with this data set were within acceptance criteria.

10. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of pages.

11. The samples were reported on a wet weight "as received" basis.

12. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or a designee as verified by the following signature.

Iain Daniels
LvL Laboratory Manager

5/16/12
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 12GC084

Initiator: Catherine Carey
Date: 05/14/12
Client: WC Hanford

Batch: 1205008
Samples: 02, MS4 + MSD4
Method: SW846/MCAWW/CLP/

Parameter: DRO
Matrix: SOIL
Prep Batch: L205023

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract* __ Container Broken* __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample* __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

surrogate recovery low is sample #02 (31%)

spike recoveries in MS4/MSD4 out of QC range

2. Known or Probable Causes(s)

sample #02 had a final extral volume of 4mls plus a 100X instrument dilution

source sample for MS4/MSD4 had a high concentration of DRO

3. Discussion and Proposed Action

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

Other Description:

Intergerence from target compounds

Narrate

4. Project Manager Instructions...signature/date: 5/16/12

✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
__ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: 5/14/12

Other Explanation:

✓ Verified re-[log][leach][extract][digest][analysis] (circle)
__ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA for diposition.

Route
__ Lab Manager: Daniels
__ Project Mgr (circle): Johnson / Stone
__ Sample Prep (circle): Ford
__ Log-in: King

Route
__ Metals: Welsh / _____
__ Inorganic: Perrone / _____
__ GC/LC: Carey / _____
__ MS VOA: Rubino / _____
__ MS BNA: Carden / _____
__ Other: _____

QA-139-A-0208

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/14/2012 19:32

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
*	Value outside QC acceptance criteria
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
Dry	Sample results reported on a dry weight basis
Wet	Sample results reported on a wet weight basis
RPD	Relative Percent Difference

LIONVILLE LABORATORY INC.

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
B	=	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
. I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.
P	=	This flag is used for a dual column analysis (i.e. pesticides/PCB/herbicides) when there is greater than 40% difference for detected concentrations between the two GC columns; the lower of the two values is reported on Form 1 and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
NPM	=	No pattern match for multi-component target analytes.

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/16/2012 10:43

Extractable Petroleum Hydrocarbons by SW846 8015
Lionville Laboratory

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
J1P1M3 (1205008-01) Other Solid								
Surrogate: p-Terphenyl	*86 %*	*39-129*			*L205023*	*05/03/2012*	*05/13/2012*	*8015M*
Diesel Range Organics	1520000	245000	ug/kg	50	L205023	05/03/2012	05/13/2012	8015M
Motor Oil	734000 U	734000	ug/kg	50	L205023	05/03/2012	05/13/2012	8015M
J1P1M4 (1205008-02) Other Solid								
Surrogate: p-Terphenyl	*31 % **	*39-129*			*L205023*	*05/03/2012*	*05/13/2012*	*8015M*
Diesel Range Organics	63500000	1830000	ug/kg	100	L205023	05/03/2012	05/13/2012	8015M
Motor Oil	5500000 U	5500000	ug/kg	100	L205023	05/03/2012	05/13/2012	8015M
J1P1M5 (1205008-03) Other Solid								
Surrogate: p-Terphenyl	*101 %*	*39-129*			*L205023*	*05/03/2012*	*05/13/2012*	*8015M*
Diesel Range Organics	193000	35900	ug/kg	2	L205023	05/03/2012	05/13/2012	8015M
Motor Oil	671000	108000	ug/kg	2	L205023	05/03/2012	05/13/2012	8015M
J1P1M6 (1205008-04) Other Solid								
Surrogate: p-Terphenyl	*84 %*	*39-129*			*L205023*	*05/03/2012*	*05/13/2012*	*8015M*
Diesel Range Organics	4970 U	4970	ug/kg	1	L205023	05/03/2012	05/13/2012	8015M
Motor Oil	9050 J	14900	ug/kg	1	L205023	05/03/2012	05/13/2012	8015M

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/14/2012 19:32

Extractable Petroleum Hydrocarbons by SW846 8015 - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205023 - SW 3540C										
Blank (L205023-BLK1)				Prepared: 05/03/2012 Analyzed: 05/12/2012						
Diesel Range Organics	3330	U	3330	ug/kg						
Motor Oil	10000	U	10000	ug/kg						
Surrogate: p-Terphenyl	*7850*			*ug/kg*	*6666.7*		*118*	*39-129*		
LCS (L205023-BS1)				Prepared: 05/03/2012 Analyzed: 05/12/2012						
Diesel Range Organics	65600		3330	ug/kg	66667		98	42-133		40
Surrogate: p-Terphenyl	*7360*			*ug/kg*	*6666.7*		*110*	*39-129*		
Matrix Spike (L205023-MS4)		**Source: 1205008-03**		Prepared: 05/03/2012 Analyzed: 05/13/2012						
Diesel Range Organics	150000		36900	ug/kg	92208	193000	-47*	42-133		40
Surrogate: p-Terphenyl	*9810*			*ug/kg*	*9220.8*		*106*	*39-129*		
Matrix Spike Dup (L205023-MSD4)		**Source: 1205008-03**		Prepared: 05/03/2012 Analyzed: 05/13/2012						
Diesel Range Organics	160000		39100	ug/kg	97656	193000	-34*	42-133	-32	40
Surrogate: p-Terphenyl	*9030*			*ug/kg*	*9765.6*		*92*	*39-129*		

PREPARATION BENCH SHEET

L205023

Lionville Laboratory

Printed: 5/7/2012 1:37:29PM

Matrix: Solid **Prepared using: GC - SW 3540C** **Surrogate used: 1200549**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1204080-01	8015M DRO	05/03/2012 12:07	30.21	1				1000	WC-Hanford, Inc.	
1205006-01	8015M DRO	05/03/2012 12:07	30.64	1				1000	WC-Hanford, Inc.	
1205007-01	8015M DRO	05/03/2012 12:07	10.08	4				1000	WC-Hanford, Inc.	
1205008-01	8015M DRO	05/03/2012 12:07	20.44	1				1000	WC-Hanford, Inc.	
1205008-02	8015M DRO	05/03/2012 12:07	21.81	4				1000	WC-Hanford, Inc.	
1205008-03	8015M DRO	05/03/2012 12:07	22.28	4				1000	WC-Hanford, Inc.	
1205008-04	8015M DRO	05/03/2012 12:07	20.13	1				1000	WC-Hanford, Inc.	
L205023-BLK1	QC	05/03/2012 12:07	30	1				1000		
L205023-BS1	QC	05/03/2012 12:07	30	1	1101936		1000	1000		
L205023-MS1	QC	05/03/2012 12:07	30.58	1	1101936	1204080-01	1000	1000		
L205023-MS2	QC	05/03/2012 12:07	30.42	1	1101936	1205006-01	1000	1000		
L205023-MS3	QC	05/03/2012 12:07	11.02	4	1101936	1205007-01	1000	1000		
L205023-MS4	QC	05/03/2012 12:07	21.69	4	1101936	1205008-03	1000	1000		
L205023-MSD1	QC	05/03/2012 12:07	30.52	1	1101936	1204080-01	1000	1000		
L205023-MSD2	QC	05/03/2012 12:07	30.49	1	1101936	1205006-01	1000	1000		
L205023-MSD3	QC	05/03/2012 12:07	10.63	4	1101936	1205007-01	1000	1000		
L205023-MSD4	QC	05/03/2012 12:07	20.48	4	1101936	1205008-03	1000	1000		

5/7/12 1350
Extracts Relinquished By Date

LC 5/8/12
Extracts Received By Date

PAHs

LIONVILLE LABORATORY
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 15:50

Analytical Report for Polynuclear Aromatic Compounds by SW846 8310

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1P1M3	1205008-01	Other Solid	05/01/2012 08:30	05/02/2012 09:40
J1P1M4	1205008-02	Other Solid	05/01/2012 08:35	05/02/2012 09:40
J1P1M5	1205008-03	Other Solid	05/01/2012 08:50	05/02/2012 09:40
J1P1M6	1205008-04	Other Solid	05/01/2012 09:00	05/02/2012 09:40

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Case Narrative

Client: WC-HANFORD RC-030 K3892
LVL #: 1205008

W.O. #: 60049-001-001-0001-00
Date Received: 05-02-2012

POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)

One (1) other solid sample was collected on 05-01-2012.

The sample and associated QC samples were extracted 05-10-2012 and analyzed 05-15,16-2012 according to criteria set forth in Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3540C and the analysis procedure was based on SW846 Method 8310.

Lionville Laboratory (LvL) is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager. LvL certifies that all test results meet the requirements of NELAC with any exception noted in the following statements:

1. The results presented in this report are derived from a sample that met LvL's sample acceptance policy.

2. All required holding times for extraction and analysis have been met.

3. Two (2) of eight (8) surrogate recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR#12GC087) has been enclosed.

4. The method blank was below the reporting limits for all target compounds.

5. All blank spike recoveries were within acceptance criteria.

6. All matrix spike recoveries were within acceptance criteria.

7. Two (2) samples required instrument dilutions due to high concentrations of target analytes. Sample J1P1M3 required 100-fold dilutions; sample J1P1M4 required 500-fold dilutions. Reporting limits have been adjusted to reflect the necessary dilutions.

8. The initial calibrations associated with this data set were within acceptance criteria.

9. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

10. The sample was reported on a wet weight "as received" basis.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of pages.

11. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory manager or a designee as verified by the following signature.

Iain Daniels
LvL Laboratory Manager

5/17/12
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 12GC087

Initiator: Catherine Carey
Date: 05/16/12
Client: WC Hanford

Batch: 1205008
Samples: 01, 02
Method: SW846/MCAWW/CLP/

Parameter: PAH
Matrix: SOIID
Prep Batch: L205086

1. Reason for SDR

a. COC Discrepancy
__ Tech Profile Error __ Client Request __ Sampler Error on C-O-C
__ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy
__ Missing Sample/Extract* __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample* __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

surrogate recoveries are high #01 (136%) and #02 (184%)

2. Known or Probable Causes(s)

Interference from high levels of non target compounds.

3. Discussion and Proposed Action

Other Description:

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

Narrate
I.S.

4. Project Manager Instructions...signature/date: [signature] 5/17/12

✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
__ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: [signature] 5/17/12

Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA for diposition.

Route
__ Lab Manager: Daniels
__ Project Mgr (circle): Johnson / Stone
__ Sample Prep (circle): Ford
__ Log-in: King

Route
__ Metals: Welsh / _____
__ Inorganic: Perrone / _____
__ GC/LC: Carey / _____
__ MS VOA: Rubino / _____
__ MS BNA: Carden / _____
__ Other: _____

QA-139-A-0208

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 15:50

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
D	Results reported from a dilution; related reporting limits are elevated due to the presence of an interference or a high target value.
B	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag)
*	Value outside QC acceptance criteria
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
wet	Sample results reported on a wet weight basis
RPD	Relative Percent Difference

LIONVILLE LABORATORY INC.

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
B	=	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
. I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.
P	=	This flag is used for a dual column analysis (i.e. pesticides/PCB/herbicides) when there is greater than 40% difference for detected concentrations between the two GC columns; the lower of the two values is reported on Form 1 and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
NPM	=	No pattern match for multi-component target analytes.

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 15:50

J1P1M3
1205008-01 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Acenaphthylene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Acenaphthene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Fluorene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Phenanthrene	**1570**	D	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Anthracene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Fluoranthene	**2190**	D	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Indeno[1,2,3-cd]pyrene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Pyrene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Benz[a]anthracene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Chrysene	**150**	J, D	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Benzo[b] fluoranthene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Benzo[k] fluoranthene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Benzo[a] pyrene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Dibenz[a,h]anthracene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Benzo[g,h,i] perylene	482	U	482	ug/kg	100	L205086	05/10/2012	05/15/2012	8310
Surrogate: Triphenylene	*136 % **		*68-129*			*L205086*	*05/10/2012*	*05/15/2012*	*8310*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 15:50

J1P1M4
1205008-02 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**18100**	D	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Acenaphthylene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Acenaphthene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Fluorene	**3140**	J, D	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Phenanthrene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Anthracene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Fluoranthene	**76900**	D	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Indeno[1,2,3-cd]pyrene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Pyrene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Benz[a]anthracene	**1340**	J, D	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Chrysene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Benzo[b] fluoranthene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Benzo[k] fluoranthene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Benzo[a] pyrene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Dibenz[a,h]anthracene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Benzo[g,h,i] perylene	3410	U	3410	ug/kg	500	L205086	05/10/2012	05/16/2012	8310
Surrogate: Triphenylene	*184 % **		*68-129*			*L205086*	*05/10/2012*	*05/16/2012*	*8310*

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J1P1M5
1205008-03 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**5.91**		4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Acenaphthylene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Acenaphthene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Fluorene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Phenanthrene	**5.89**		4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Anthracene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Fluoranthene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Indeno[1,2,3-cd]pyrene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Pyrene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Benz[a]anthracene	**3.33**	J	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Chrysene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Benzo[b] fluoranthene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Benzo[k] fluoranthene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Benzo[a] pyrene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Dibenz[a,h]anthracene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Benzo[g,h,i] perylene	4.97	U	4.97	ug/kg	1	L205086	05/10/2012	05/16/2012	8310
Surrogate: Triphenylene	*93 %*		*68-129*			*L205086*	*05/10/2012*	*05/16/2012*	*8310*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 15:50

J1P1M6
1205008-04 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**9.73**		4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Acenaphthylene	4.59	U	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Acenaphthene	4.59	U	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Fluorene	4.59	U	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Phenanthrene	**3.90**	J	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Anthracene	4.59	U	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Fluoranthene	**5.14**		4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Indeno[1,2,3-cd]pyrene	**1.49**	J	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Pyrene	4.59	U	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Benz[a]anthracene	**1.35**	J	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Chrysene	4.59	U	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Benzo[b] fluoranthene	4.59	U	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Benzo[k] fluoranthene	4.59	U	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Benzo[a] pyrene	**1.35**	J	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Dibenz[a,h]anthracene	4.59	U	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Benzo[g,h,i] perylene	**2.04**	J	4.59	ug/kg	1	L205086	05/10/2012	05/15/2012	8310
Surrogate: Triphenylene	*106 %*		*68-129*			*L205086*	*05/10/2012*	*05/15/2012*	*8310*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/17/2012 15:50

Polynuclear Aromatic Compounds by SW846 8310 - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205086 - SW 3540C										
Blank (L205086-BLK1)				Prepared: 05/10/2012 Analyzed: 05/16/2012						
Naphthalene	3.33	U	3.33	ug/kg						
Acenaphthylene	3.33	U	3.33	ug/kg						
Acenaphthene	3.33	U	3.33	ug/kg						
Fluorene	3.33	U	3.33	ug/kg						
Phenanthrene	3.33	U	3.33	ug/kg						
Anthracene	3.33	U	3.33	ug/kg						
Fluoranthene	3.33	U	3.33	ug/kg						
Indeno[1,2,3-cd]pyrene	3.33	U	3.33	ug/kg						
Pyrene	3.33	U	3.33	ug/kg						
Benz[a]anthracene	3.33	U	3.33	ug/kg						
Chrysene	3.33	U	3.33	ug/kg						
Benzo[b] fluoranthene	3.33	U	3.33	ug/kg						
Benzo[k] fluoranthene	3.33	U	3.33	ug/kg						
Benzo[a] pyrene	3.33	U	3.33	ug/kg						
Dibenz[a,h]anthracene	3.33	U	3.33	ug/kg						
Benzo[g,h,i] perylene	3.33	U	3.33	ug/kg						
Surrogate: Triphenylene	*162*			*ug/kg*	*166.67*		*97*	*68-129*		
LCS (L205086-BS1)				Prepared: 05/10/2012 Analyzed: 05/15/2012						
Naphthalene	199		3.33	ug/kg	166.67		120	0-127		40
Acenaphthylene	148		3.33	ug/kg	166.67		89	50-140		40
Acenaphthene	136		3.33	ug/kg	166.67		81	17-139		40
Fluorene	153		3.33	ug/kg	166.67		92	28-145		40
Phenanthrene	159		3.33	ug/kg	166.67		95	30-152		40
Anthracene	117		3.33	ug/kg	166.67		70	19-171		40
Fluoranthene	160		3.33	ug/kg	166.67		96	34-159		40
Indeno[1,2,3-cd]pyrene	172		3.33	ug/kg	166.67		103	31-156		40
Pyrene	142		3.33	ug/kg	166.67		85	33-152		40
Benz[a]anthracene	166		3.33	ug/kg	166.67		100	32-157		40
Chrysene	159		3.33	ug/kg	166.67		95	31-159		40
Benzo[b] fluoranthene	162		3.33	ug/kg	166.67		97	33-164		40
Benzo[k] fluoranthene	162		3.33	ug/kg	166.67		97	28-161		40
Benzo[a] pyrene	182		3.33	ug/kg	166.67		109	29-149		40
Dibenz[a,h]anthracene	147		3.33	ug/kg	166.67		88	27-153		40
Benzo[g,h,i] perylene	158		3.33	ug/kg	166.67		95	32-157		40
Surrogate: Triphenylene	*174*			*ug/kg*	*166.67*		*104*	*68-129*		

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Polynuclear Aromatic Compounds by SW846 8310 - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205086 - SW 3540C									
Matrix Spike (L205086-MS2)		**Source: 1205008-04**	Prepared: 05/10/2012 Analyzed: 05/15/2012						
Naphthalene	287	4.79	ug/kg	239.58	9.73	116	0-127		40
Acenaphthylene	204	4.79	ug/kg	239.58	4.59 U	85	50-140		40
Acenaphthene	188	4.79	ug/kg	239.58	4.59 U	78	17-139		40
Fluorene	213	4.79	ug/kg	239.58	4.59 U	89	28-145		40
Phenanthrene	232	4.79	ug/kg	239.58	3.90	95	30-152		40
Anthracene	165	4.79	ug/kg	239.58	4.59 U	69	19-171		40
Fluoranthene	260	4.79	ug/kg	239.58	5.14	106	34-159		40
Indeno[1,2,3-cd]pyrene	241	4.79	ug/kg	239.58	1.49	100	31-156		40
Pyrene	201	4.79	ug/kg	239.58	4.59 U	84	33-152		40
Benz[a]anthracene	239	4.79	ug/kg	239.58	1.35	99	32-157		40
Chrysene	221	4.79	ug/kg	239.58	4.59 U	92	31-159		40
Benzo[b] fluoranthene	226	4.79	ug/kg	239.58	4.59 U	95	33-164		40
Benzo[k] fluoranthene	231	4.79	ug/kg	239.58	4.59 U	96	28-161		40
Benzo[a] pyrene	250	4.79	ug/kg	239.58	1.35	104	29-149		40
Dibenz[a,h]anthracene	210	4.79	ug/kg	239.58	4.59 U	88	27-153		40
Benzo[g,h,i] perylene	215	4.79	ug/kg	239.58	2.04	89	32-157		40
Surrogate: Triphenylene	*238*		*ug/kg*	*239.58*		*99*	*68-129*		
Matrix Spike Dup (L205086-MSD2)		**Source: 1205008-04**	Prepared: 05/10/2012 Analyzed: 05/15/2012						
Naphthalene	281	4.56	ug/kg	228.10	9.73	119	0-127	3	40
Acenaphthylene	197	4.56	ug/kg	228.10	4.59 U	87	50-140	2	40
Acenaphthene	179	4.56	ug/kg	228.10	4.59 U	79	17-139	0.3	40
Fluorene	205	4.56	ug/kg	228.10	4.59 U	90	28-145	1	40
Phenanthrene	223	4.56	ug/kg	228.10	3.90	96	30-152	0.7	40
Anthracene	159	4.56	ug/kg	228.10	4.59 U	70	19-171	1	40
Fluoranthene	243	4.56	ug/kg	228.10	5.14	104	34-159	2	40
Indeno[1,2,3-cd]pyrene	228	4.56	ug/kg	228.10	1.49	99	31-156	0.8	40
Pyrene	190	4.56	ug/kg	228.10	4.59 U	83	33-152	0.9	40
Benz[a]anthracene	224	4.56	ug/kg	228.10	1.35	98	32-157	2	40
Chrysene	207	4.56	ug/kg	228.10	4.59 U	91	31-159	2	40
Benzo[b] fluoranthene	211	4.56	ug/kg	228.10	4.59 U	93	33-164	2	40
Benzo[k] fluoranthene	214	4.56	ug/kg	228.10	4.59 U	94	28-161	3	40
Benzo[a] pyrene	232	4.56	ug/kg	228.10	1.35	101	29-149	2	40
Dibenz[a,h]anthracene	196	4.56	ug/kg	228.10	4.59 U	86	27-153	2	40
Benzo[g,h,i] perylene	196	4.56	ug/kg	228.10	2.04	85	32-157	5	40
Surrogate: Triphenylene	*229*		*ug/kg*	*228.10*		*100*	*68-129*		

PREPARATION BENCH SHEET

L205086

Lionville Laboratory

Printed: 5/11/2012 1:29:16PM

00000073

Matrix: Solid **Prepared using: HPLC - SW 3540C** **Surrogate used: 1200612**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1205007-01	8310 PAH	05/10/2012 15:17	30.91	5				50	WC-Hanford, Inc.	
1205008-01	8310 PAH	05/10/2012 15:17	20.72	5				50	WC-Hanford, Inc.	
1205008-02	8310 PAH	05/10/2012 15:17	29.26	10				50	WC-Hanford, Inc.	
1205008-03	8310 PAH	05/10/2012 15:17	20.12	5				50	WC-Hanford, Inc.	
1205008-04	8310 PAH	05/10/2012 15:17	21.78	5				50	WC-Hanford, Inc.	
1205014-01	8310 PAH	05/10/2012 15:17	30.25	5				50	WC-Hanford, Inc.	
L205086-BLK1	QC	05/10/2012 15:17	30	5				50		
L205086-BS1	QC	05/10/2012 15:17	30	5	1200436		50	50		
L205086-MS1	QC	05/10/2012 15:17	30.28	5	1200436	1205007-01	50	50		
L205086-MS2	QC	05/10/2012 15:17	20.87	5	1200436	1205008-04	50	50		
L205086-MS3	QC	05/10/2012 15:17	30.14	5	1200436	1205014-01	50	50		
L205086-MSD1	QC	05/10/2012 15:17	30.57	5	1200436	1205007-01	50	50		
L205086-MSD2	QC	05/10/2012 15:17	21.92	5	1200436	1205008-04	50	50		
L205086-MSD3	QC	05/10/2012 15:17	30.21	5	1200436	1205014-01	50	50		

5/11/12 1342

Extracts Relinquished By Date

05.11.12 13:42

Extracts Received By Date

METALS

264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/14/2012 13:15

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1P1M3	1205008-01	Other Solid	05/01/2012 08:30	05/02/2012 09:40
J1P1M4	1205008-02	Other Solid	05/01/2012 08:35	05/02/2012 09:40
J1P1M5	1205008-03	Other Solid	05/01/2012 08:50	05/02/2012 09:40
J1P1M6	1205008-04	Other Solid	05/01/2012 09:00	05/02/2012 09:40

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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Case Narrative

Client: WC-HANFORD RC-030
LVL#: 1205008
SDG/SAF#: K3892/RC-030

W.O.#: 60049-001-001-0001-00
Date Received: 05-02-12

METALS

The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvL) certifies that all test results meet the requirements of NELAC except as noted below.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise.

1. This narrative covers the analyses of 4 other solid samples.

2. The samples were prepared and analyzed in accordance with methods listed on the data report forms. The samples were reported on a wet weight, 'as-received' basis.

   The samples were analyzed and reported with a 3-fold dilution for ICP metals due to sample matrix.

3. All analyses were performed within the required holding times.

4. Please refer to the Sample Receipt Check List for any sample discrepancies in LvL's sample acceptance policy.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).

6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits.

7. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation, samples were greater than 20X MB value}.

8. All ICP Interference Check Standards were within control limits.

9. All Standard Reference Material (SRM) analytes were within the Prediction Interval control limits supplied by the manufacturer.

10. The matrix spike (MS) recoveries for 9 analytes were outside the 75-125% control limits.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of pages.

11. For analytes where the ICP MS is out-of-control, a post-digestion MS (PDS) and serial dilution are performed. A PDS was prepared at meaningful concentration level for the following analytes:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J1P1M4	Aluminum	22,000	99.3
	Antimony	100	117.9
	Calcium	20,800	94.7
	Chromium	100	111.9
	Iron	42,000	97.1
	Manganese	1,000	100.5
	Molybdenum	100	114.5
	Silicon	1,100	110.3
	Zinc	1,100	113.5

12. The duplicate analyses for 6 analytes were outside the 20% Relative Percent Difference (RPD) control limits. The ± 20% RPD control limit applies to sample results greater than ten times the MDL. The sample results for Potassium and Vanadium were less than ten times the MDL.

13. For the purposes of this report, the data have been reported to the Limit of Detection (LOD). Values between the LOD and the Limit of Quantitation (LOQ) are acquired in a region of less-certain quantification.

14. LvL is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

15. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory

5/14/12
Date

alm/05-008

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/14/2012 13:15

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
B	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag)
*	Value outside QC acceptance criteria
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
wet	Sample results reported on a wet weight basis
RPD	Relative Percent Difference

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/14/2012 13:15

J1P1M3
1205008-01 (Other Solid)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**3460**		14.2	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Antimony	1.70	U	1.70	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Arsenic	2.83	U	2.83	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Barium	**26.5**		1.42	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Beryllium	0.566	U	0.566	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Boron	**2.52**	B	5.66	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Cadmium	**0.283**	B	0.566	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Calcium	**3000**		283	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Chromium	**5.30**		0.566	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Cobalt	5.66	U	5.66	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Copper	**6.23**		2.83	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Iron	**10100**		56.6	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Lead	**14.1**		1.42	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Magnesium	**1330**		212	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Manganese	**111**		14.2	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Molybdenum	5.66	U	5.66	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Nickel	**4.31**	B	11.3	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Potassium	**653**	B	1130	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Selenium	0.849	U	0.849	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Silicon	**250**		5.66	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Silver	0.566	U	0.566	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Sodium	**214**		142	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Vanadium	**14.0**		7.08	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Zinc	**851**		28.3	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Mercury	**0.0184**	B	0.0281	mg/kg	1	L205038	05/07/2012	05/09/2012	7471A

LIONVILLE LABORATORY
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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/14/2012 13:15

J1P1M4
1205008-02 (Other Solid)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**2220**		13.9	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Antimony	1.67	U	1.67	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Arsenic	2.78	U	2.78	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Barium	**61.7**		1.39	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Beryllium	0.556	U	0.556	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Boron	**9.50**		5.56	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Cadmium	**2.05**		0.556	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Calcium	**2770**		278	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Chromium	**48.0**		0.556	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Cobalt	5.56	U	5.56	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Copper	**27.8**		2.78	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Iron	**31300**		55.6	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Lead	**28.3**		1.39	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Magnesium	**5610**		208	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Manganese	**77.0**		13.9	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Molybdenum	**1.36**	B	5.56	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Nickel	**2.80**	B	11.1	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Potassium	**450**	B	1110	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Selenium	0.833	U	0.833	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Silicon	**224**		5.56	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Silver	0.556	U	0.556	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Sodium	**134**	B	139	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Vanadium	**8.19**		6.94	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Zinc	**860**		27.8	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Mercury	0.0265	U	0.0265	mg/kg	1	L205038	05/07/2012	05/09/2012	7471A

LIONVILLE LABORATORY
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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/14/2012 13:15

J1P1M5
1205008-03 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**4660**		14.2	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Antimony	1.70	U	1.70	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Arsenic	**8.63**		2.83	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Barium	**112**		1.42	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Beryllium	**0.175**	B	0.566	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Boron	**3.65**	B	5.66	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Cadmium	**0.481**	B	0.566	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Calcium	**10400**		283	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Chromium	**43.3**		0.566	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Cobalt	**6.31**		5.66	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Copper	**65.0**		2.83	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Iron	**31000**		56.6	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Lead	**49.6**		1.42	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Magnesium	**2690**		212	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Manganese	**273**		14.2	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Molybdenum	**6.05**		5.66	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Nickel	**56.9**		11.3	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Potassium	**870**	B	1130	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Selenium	0.849	U	0.849	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Silicon	**191**		5.66	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Silver	0.566	U	0.566	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Sodium	**284**		142	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Vanadium	**39.8**		7.08	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Zinc	**145**		28.3	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Mercury	**0.00944**	B	0.0250	mg/kg	1	L205038	05/07/2012	05/09/2012	7471A

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/14/2012 13:15

J1P1M6
1205008-04 (Other Solid)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**836**		13.6	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Antimony	1.64	U	1.64	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Arsenic	2.73	U	2.73	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Barium	**18.3**		1.36	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Beryllium	0.545	U	0.545	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Boron	**7.94**		5.45	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Cadmium	**0.272**	B	0.545	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Calcium	**97000**		273	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Chromium	**5.60**		0.545	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Cobalt	**4.45**	B	5.45	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Copper	**172**		2.73	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Iron	**29100**		54.5	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Lead	**11.4**		1.36	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Magnesium	**1070**		205	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Manganese	**130**		13.6	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Molybdenum	**1.08**	B	5.45	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Nickel	**7.93**	B	10.9	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Potassium	**2640**		1090	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Selenium	0.818	U	0.818	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Silicon	**408**		5.45	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Silver	0.545	U	0.545	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Sodium	**283**		136	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Vanadium	**3.83**	B	6.82	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Zinc	**271**		27.3	mg/kg	3	L205030	05/09/2012	05/11/2012	6010B
Mercury	0.0281	U	0.0281	mg/kg	1	L205038	05/07/2012	05/09/2012	7471A

LIONVILLE LABORATORY
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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/14/2012 13:15

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205030 - SW 3050B										
Blank (L205030-BLK1)				Prepared: 05/09/2012 Analyzed: 05/11/2012						
Aluminum	3.79	U	3.79	mg/kg						
Antimony	0.455	U	0.455	mg/kg						
Arsenic	0.758	U	0.758	mg/kg						
Barium	0.379	U	0.379	mg/kg						
Beryllium	0.152	U	0.152	mg/kg						
Boron	1.52	U	1.52	mg/kg						
Cadmium	0.152	U	0.152	mg/kg						
Calcium	5.44	B	75.8	mg/kg						
Chromium	0.152	U	0.152	mg/kg						
Cobalt	1.52	U	1.52	mg/kg						
Copper	0.758	U	0.758	mg/kg						
Iron	15.2	U	15.2	mg/kg						
Lead	0.379	U	0.379	mg/kg						
Magnesium	1.00	B	56.8	mg/kg						
Manganese	3.79	U	3.79	mg/kg						
Molybdenum	1.52	U	1.52	mg/kg						
Nickel	3.03	U	3.03	mg/kg						
Potassium	303	U	303	mg/kg						
Selenium	0.227	U	0.227	mg/kg						
Silicon	1.52	U	1.52	mg/kg						
Silver	0.152	U	0.152	mg/kg						
Sodium	37.9	U	37.9	mg/kg						
Vanadium	1.89	U	1.89	mg/kg						
Zinc	7.58	U	7.58	mg/kg						
Duplicate (L205030-DUP1)			**Source: 1205008-02**	Prepared: 05/09/2012 Analyzed: 05/11/2012						
Aluminum	1740		14.7	mg/kg		2220			23.8*	20
Antimony	1.76	U	1.76	mg/kg		1.67 U				20
Arsenic	2.94	U	2.94	mg/kg		2.78 U				20
Barium	63.2		1.47	mg/kg		61.7			2.38	20
Beryllium	0.588	U	0.588	mg/kg		0.556 U				20
Boron	10.8		5.88	mg/kg		9.50			12.8	20
Cadmium	3.59		0.588	mg/kg		2.05			54.8*	20
Calcium	2050		294	mg/kg		2770			29.8*	20
Chromium	32.5		0.588	mg/kg		48.0			38.4*	20
Cobalt	5.88	U	5.88	mg/kg		5.56 U				20
Copper	24.4		2.94	mg/kg		27.8			13.2	20

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-030 Project Number: K3892 Project Manager: Joan Kessner	**Reported:** 05/14/2012 13:15

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205030 - SW 3050B										
Duplicate (L205030-DUP1)		**Source: 1205008-02**		Prepared: 05/09/2012 Analyzed: 05/11/2012						
Iron	34700		58.8	mg/kg		31300			10.2	20
Lead	21.8		1.47	mg/kg		28.3			25.9*	20
Magnesium	6050		221	mg/kg		5610			7.58	20
Manganese	53.4		14.7	mg/kg		77.0			36.3*	20
Molybdenum	1.46	B	5.88	mg/kg		1.36			6.85	20
Nickel	11.8	U	11.8	mg/kg		2.80				20
Potassium	331	B	1180	mg/kg		450			30.7*	20
Selenium	0.882	U	0.882	mg/kg		0.833 U				20
Silicon	267		5.88	mg/kg		224			17.6	20
Silver	0.588	U	0.588	mg/kg		0.556 U				20
Sodium	112	B	147	mg/kg		134			18.2	20
Vanadium	3.32	B	7.35	mg/kg		8.19			84.6*	20
Zinc	890		29.4	mg/kg		860			3.49	20
Matrix Spike (L205030-MS1)		**Source: 1205008-02**		Prepared: 05/09/2012 Analyzed: 05/11/2012						
Aluminum	3560		14.2	mg/kg	188.68	2220	711*	75-125		20
Antimony	9.74		1.70	mg/kg	47.170	1.67 U	20.7*	75-125		20
Arsenic	146		2.83	mg/kg	188.68	2.78 U	77.6	75-125		20
Barium	237		1.42	mg/kg	188.68	61.7	92.9	75-125		20
Beryllium	3.98		0.566	mg/kg	4.7170	0.556 U	84.4	75-125		20
Boron	88.1		5.66	mg/kg	94.340	9.50	83.4	75-125		20
Cadmium	6.83		0.566	mg/kg	4.7170	2.05	101	75-125		20
Calcium	6340		283	mg/kg	2358.5	2770	151*	75-125		20
Chromium	161		0.566	mg/kg	18.868	48.0	600*	75-125		20
Cobalt	41.4		5.66	mg/kg	47.170	5.56 U	87.7	75-125		20
Copper	56.1		2.83	mg/kg	23.585	27.8	120	75-125		20
Iron	31900		56.6	mg/kg	94.340	31300	596*	75-125		20
Lead	85.2		1.42	mg/kg	47.170	28.3	121	75-125		20
Magnesium	8170		212	mg/kg	2358.5	5610	109	75-125		20
Manganese	169		14.2	mg/kg	47.170	77.0	196*	75-125		20
Molybdenum	70.3		5.66	mg/kg	94.340	1.36	73.1*	75-125		20
Nickel	43.3		11.3	mg/kg	47.170	2.80	85.8	75-125		20
Potassium	2520		1130	mg/kg	2358.5	450	87.9	75-125		20
Selenium	154		0.849	mg/kg	188.68	0.833 U	81.7	75-125		20
Silicon	461		5.66	mg/kg	94.340	224	251*	75-125		20
Silver	3.59		0.566	mg/kg	4.7170	0.556 U	76.0	75-125		20
Sodium	2200		142	mg/kg	2358.5	134	87.4	75-125		20

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/14/2012 13:15

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205030 - SW 3050B									
Matrix Spike (L205030-MS1)		**Source: 1205008-02**	Prepared: 05/09/2012 Analyzed: 05/11/2012						
Vanadium	53.9	7.08	mg/kg	47.170	8.19	97.0	75-125		20
Zinc	1110	28.3	mg/kg	47.170	860	523*	75-125		20
Reference (L205030-SRM1)			Prepared: 05/09/2012 Analyzed: 05/11/2012						
Aluminum	8140	10.6	mg/kg	6670.0		122	0-200.89		
Antimony	41.0	1.27	mg/kg	53.000		77.5	0-235.8		
Arsenic	115	2.11	mg/kg	114.00		101	82.8-117.54		
Barium	307	1.06	mg/kg	307.00		100	79.8-120.2		
Beryllium	104	0.423	mg/kg	108.00		95.9	82.8-117.6		
Boron	77.6	4.23	mg/kg	85.100		91.2	67.5-132.8		
Cadmium	224	0.423	mg/kg	225.00		99.6	83.6-116.4		
Calcium	3120	211	mg/kg	3360.0		93.0	83.3-116.9		
Chromium	77.1	0.423	mg/kg	77.200		99.9	73.3-126.4		
Cobalt	160	4.23	mg/kg	166.00		96.2	80.7-118.7		
Copper	269	2.11	mg/kg	271.00		99.2	80.8-119.2		
Iron	8070	42.3	mg/kg	8420.0		95.9	78.6-121.1		
Lead	181	1.06	mg/kg	190.00		95.1	81.6-118.4		
Magnesium	7490	158	mg/kg	8570.0		87.4	83.2-116.7		
Manganese	1010	10.6	mg/kg	965.00		105	69.3-130.5		
Molybdenum	234	4.23	mg/kg	235.00		99.5	76.2-123.8		
Nickel	215	8.45	mg/kg	221.00		97.1	79.6-120.8		
Potassium	13900	845	mg/kg	14400		96.5	81.9-118.1		
Selenium	186	0.634	mg/kg	187.00		99.3	75.9-124.6		
Silicon	310	4.23	mg/kg	807.00		38.5	0-219.3		
Silver	84.2	0.423	mg/kg	83.500		101	82.7-117.1		
Sodium	9230	106	mg/kg	9730.0		94.8	82.5-117.2		
Vanadium	101	5.28	mg/kg	98.700		102	75.9-123.6		
Zinc	194	21.1	mg/kg	199.00		97.4	78.4-121.6		

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WC-Hanford, Inc.	Project: RC-030	
2620 Fermi Avenue	Project Number: K3892	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/14/2012 13:15

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L205038 - SW 7471A Prep										
Blank (L205038-BLK1)				Prepared: 05/07/2012 Analyzed: 05/09/2012						
Mercury	0.0281	U	0.0281	mg/kg						
Duplicate (L205038-DUP4)		**Source: 1205008-01**		Prepared: 05/07/2012 Analyzed: 05/09/2012						
Mercury	0.0171	B	0.0265	mg/kg		0.0184			7.77	20
Matrix Spike (L205038-MS4)		**Source: 1205008-01**		Prepared: 05/07/2012 Analyzed: 05/09/2012						
Mercury	0.188		0.0273	mg/kg	0.15152	0.0184	112	75-125		20
Reference (L205038-SRM1)				Prepared: 05/07/2012 Analyzed: 05/09/2012						
Mercury	1.17		0.0290	mg/kg	1.2900		90.4	62.6-138		

Lionville Laboratory

Logbook #: 111

SAMPLE DIGESTION RECORD

Digestion Batch #: L205030
Date/Time Initiated: 5/9/12 1155
Date/Time Completed: 5/9/12 1840
Analyst: JJS
Matrix (circle): Soil Water Other
Method (circle one): 3005A 3010A 3050 200.7 (1994)
pH/Turbidity: N/A for Solids.

Digested / Undigested (circle one)
Balance #: B14
Balance Cal Verification: ✓ NA
Temp: 96
BLOCK 1 2 3 (circle one)

NOTE: All temperatures are recorded as corrected temperatures

Work Order # 1205008-01	Spike Vol (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/Sol/TC	Texture	Color / Appearance	Artifact	Turb
~~1204008-01~~		0.53	50		TO	Fine	Brown		N/A
-02		0.54	50			coarse	Brown		
L205030-Rp1		0.51	50						
~~1205008-03~~ MS1	0.5	0.53	50						
~~1204008-03~~		0.53	50			Fine	Black		
-04		0.55	50			Coarse	Brown	Rocks	
L205030-Blk		0.66	50			Coarse	Boiling Chips		
-SRM1	2	0.71	50			Fine	pink sand		

JJS
5/9/12

Spiking IDs / Expiration Date:
MS#: 1800457
LCS#: 1601357

Reagent IDs:
HNO_3 K4973
HCl L0103
H_2O_2 K0903
1:1 HNO_3 637-068-02
1:1 HCl

File ID#:

Data Review By/Date: 5/10/12

R:\group\QA\SOP\Signed\SPI\Metals Digestion log.doc

*: 6072-09-16 2 Gone L L-12

Page #:

Lionville Laboratory

MERCURY PREPARATION

Logbook # 1094

Analyst: [illegible]
Date 5/7/12-5/8/12
Start Time/Temp: 1410/95°
End Time/Temp: 1440/97°

Instrument ID: HG3.1/HG3.2
Balance # B29 /NA
Pipette Calibration (Daily) (Y)

Prep Batch: L205038
Worksheet: HG050901/HG050902
SOP No. ME-HgCVAA
BLOCK 1 2 (circle one) (3)

NOTE: All temperatures are recorded as corrected temperatures.

LvL Work Order#	pH < 2 (Liq)	Spike Vol (mL)	Spike Conc. (µg/L)	Initial Wt. or Vol (g or mL)	Final Sample Vol (mL)	Comments, % Solids, etc.
Blank				10ml	50	
0.2 ug/l		0.100		10ml	50	
1.0 ug/l		0.500		10ml	50	
2.0 ug/l		1.000		10ml	50	
5.0 ug/l		2.500		10ml	50	
10.0 ug/l		5.000		10ml	50	
ICV		0.125	2.5	10ml	50	
CCV		0.250	5.0	10ml	50	
ICB/CCB				10ml	50	
L205038-BLK1				0.32	50	
-SRM1		(A)	(A)	0.31	50	
1204092-01				0.32	50	
L205038-DUP1				0.32	50	
MS1		0.500	1.0	0.33	50	
1205006-01				0.35	50	
L205038-DUP2				0.36	50	
MS2		0.500	1.0	0.36	50	
1205007-01				0.35	50	
L205038-DUP3				0.37	50	
MS3		0.500	1.0	0.37	50	
1205008-01				0.32	50	
L205038-DUP4				0.34	50	
MS4		0.500	1.0	0.33	50	
1205008-02				0.34	50	
03				0.36	50	
04				0.32	50	
1205013-01				0.35	50	

Standard:	ID	Prep Date/Time
ICAL/MS	RI 1200588	5/8/12 1140
ICV/CCV/LCS	I.V. 1101407	

Reviewed By/Date: [illegible] 5/9/12

se book # 9368 for std traceability information

Soil LCS True Value = 1.29 mg/Kg
Standard # 1101357 (A)

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Water LCS Spiking Concentration: 1.0 µg/ml

A

Lionville Laboratory

MERCURY PREPARATION

Analyst: [illegible] 5/7/12
Date 5/7/12 - 5/8/12
Start Time/Temp: Lee 098
End Time/Temp: Lee 098

Instrument ID: HG3.1 / HG3.2
Balance # B29 /NA
Pipette Calibration (Daily) (Y) ____

Logbook # 1094
Prep Batch: L205038
Worksheet: HG050901 / HG050902
SOP No. ME-HgCVAA
BLOCK 1 2 (3) (circle one)

NOTE: All temperatures are recorded as corrected temperatures.

LvL Work Order#	pH < 2 (Liq)	Spike Vol (mL)	Spike Conc. (µg/L)	Initial Wt. or Vol (g or mL)	Final Sample Vol (mL)	Comments, % Solids, etc.
L205038-DUP5				0.34	50	
MS5		0.500	1.0	0.37	50	
1205013-02				0.35	50	
1205014-01				0.33	50	
L205038-DUP6				0.33	50	
MS6		0.500	1.0	0.35	50	

MW 5/8/12

Standard:	ID	Prep Date/Time
ICAL/MS		
ICV/CCV/LCS		

Reviewed By/Date: [illegible] 8/9/12

Soil LCS True Value = Lee 098 mg/Kg
Standard # ____

se book # 9368 for std traceability information
Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Soil LCS Spiking Concentration: 1.0 µg/ml

A

PREPARATION BENCH SHEET

L205030

Lionville Laboratory

Printed: 5/14/2012 10:00:47AM

Matrix: Solid **Prepared using: METALS - SW 3050B** **(No Surrogate)**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1205008-01	6010B ICP Metals	05/09/2012 11:55	0.53	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1205008-02	6010B ICP Metals	05/09/2012 11:55	0.54	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1205008-03	6010B ICP Metals	05/09/2012 11:55	0.53	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1205008-04	6010B ICP Metals	05/09/2012 11:55	0.55	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
L205030-BLK1	QC	05/09/2012 11:55	0.66	50						
L205030-DUP1	QC	05/09/2012 11:55	0.51	50		1205008-02				
L205030-MS1	QC	05/09/2012 11:55	0.53	50	1200457	1205008-02	500			
L205030-SRM1	QC	05/09/2012 11:55	0.71	50	1101357		710			

JJS 5/11/12
Extracts Relinquished By Date

Fuentes 05/11/12
Extracts Received By Date