SAF-RC-206
Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites – Full Soil Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 3/6/13
INITIAL/DATE

COMMENTS:

SDG KP0190 SAF-RC-206

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 100-C-7:1 (West Sidewall Expansion)

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

5 March 2013

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 #	1302031
SDG #	KP0190
SAF #	RC-206
Date Received	02/12/13
# Samples	3
Matrix	SOIL
Volatiles	
Semivolatiles	
Pest/PCB	
Glycols	
DRO/KRO/GRO	
PAHs	
Herbicides	
Metals	X
Inorganics	X

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 pages.

CHAIN OF CUSTODY

Lionville Laboratory Use Only

1302031

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-206 KP0190

Est. Final Proj. Sampling Date

Project#

Project Contact/Phone#

Lionville Laboratory Project Manager O. Johnson

QC SW Del SW TAT 7 Days

Date Rec'd 2-12-13 Date Due 2-19-13

		A									B							
Refrigerator #																		
#/Type Container	Liquid								2			2						
	Solid								1P			1P						
Volume	Liquid																	
	Solid								125			125						
Preservatives									—			—						
ANALYSES REQUESTED →		ORGANIC							INORG									
		VOA	BNA	Pest/PCB	Herb				Metal Hg	CN		8260						

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	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only											
															METALS			ONLY	
	01	J1R616			SOIL	2-11-13	0945								X			X	
	02	J1R618			SOIL	"	0930								X			X	
	03	J1R621			SOIL	"	0940								X			X	

Special Instructions:

METALS = HSL + B, Mo, Si (NOT L)

Special Instructions:

1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
FedEx	[signature]	2/12/13	0935

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-206-067	Page 1 of 2
Collector ~~R. Brackett~~ 01/21/13 D. Zabel	Company Contact: J. Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code ~~8L~~ 8B 01/21/13 Data Turnaround ~~21 Days~~ 7 Days
Project Designation: Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites - F	Sampling Location: 100-C-7:1 (West Sidewall Expansion)		SAF No.: RC-206	
Ice Chest No.: WCH-11-065	Field Logbook No.: EL-1655-07	COA: R00C712000	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A126734		Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees centigrade

Preservation	Cool 4C	Cool 4C									
Type of Container	G/P	G/P									
No. of Container(s)	1	1									
Volume	125mL	125mL									
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196									

Sample No.	Matrix *	Sample Date	Sample Time								
~~J1R613~~	SOIL										
J1R614 01/31/13	SOIL										
J1R615	SOIL										
J1R616	SOIL	2/11/13	0945	X	X						
~~J1R617~~ CMB 01/31/13	SOIL										

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Dalene Zabel Dalene Zabel	Date/Time: 2/11/13 0950	Received By/Stored In: Don Hedelberg	Date/Time: 2/11/13 0950
Relinquished By/Removed From: Don Hedelberg WCH	Date/Time: 2/11/13 1100	Received By/Stored In: A. Freier A. Freier	Date/Time: 2-11-13 1100
Relinquished By/Removed From: A. Freier A. Freier	Date/Time: 2-11-13 1125	Received By/Stored In: Fed Ex	Date/Time:
Relinquished By/Removed From: Fed Ex	Date/Time: 2-12-13 0935	Received By/Stored In: Victor Hernandez	Date/Time: 2/12/13 0935
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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) {Mercury}

REVIEWED BY CMB DATE 2-11-13

KP0190

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

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

WCH-EE-011

0000000004

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-206-067	Page 2 of 2
Collector ~~R. Brackett~~ DH 2/11/13 D. Zabel	Company Contact: J. Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code ~~8L~~ 8B DH 2/11/13 Data Turnaround ~~21 Days~~ 7 Days
Project Designation: Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites - F	Sampling Location: 100-C-7:1 (West Sidewall Expansion)		SAF No.: RC-206	
Ice Chest No.: WCH-11-065	Field Logbook No.: EL-1655-07	COA: R00C712000	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A120734		Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 degrees centigrade

Preservation	Cool 4C	Cool 4C									
Type of Container	G/P	G/P									
No. of Container(s)	1	1									
Volume	125mL	125mL									

SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196									
Sample No.	Matrix *	Sample Date	Sample Time								
J1R618	SOIL	2/11/13	0930	X	X						
~~J1R619~~ 01/31/13	SOIL										
J1R620	~~SOIL~~										
J1R621	SOIL	2/11/13	0940	X	X						
~~J1R622~~ 01/31/13	~~SOIL~~										

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Dalene Zabel	0950 2/11/13	Dan Heidelberg	0950 2/11/13
Dan Heidelberg	1100 2/11/13	A. Freier	1100 2-11-13
A. Freier	WCH 1125 2-11-13	Fed Ex	
Fed Ex	2-12-13 0935	Victor Hernandez	2-12-13 0935

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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) {Mercury}

KP0190

REVIEWED BY CMB DATE 2-11-13

Matrix *

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

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

WCH-EE-011

0000000005

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC Hanford **Date:** 2/12/13

Project/SAP/SOW/Release #: RC-206

LvL Batch #: 1302·031 **Sample Custodian:** Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 794724839056
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 3.1	°C	Cooler # WCH-11-065
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, RSK-175, Sulfides, Non-Halogenated VOAs (Alcohol/Glycol) 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 _____

METALS

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-206 Project Number: KP0190 Project Manager: Joan Kessner	**Reported:** 02/21/2013 13:10

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1R616	1302031-01	Soil	02/11/2013 09:45	02/12/2013 19:21
J1R618	1302031-02	Soil	02/11/2013 09:30	02/12/2013 19:21
J1R621	1302031-03	Soil	02/11/2013 09:40	02/12/2013 19:21

LIONVILLE LABORATORY
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Case Narrative

Client: WC-HANFORD RC-206
LVL#: 1302031
SDG/SAF#: KP0190/RC-206

W.O.#: 60049-001-001-0001-00
Date Received: 02-12-13

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 3 soil samples.

2. The samples were prepared and analyzed in accordance with methods listed on the data report forms.

   The samples were analyzed with 3-fold dilutions 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 LvLI's sample acceptance policy.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within control limits.

6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within method criteria.

7. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation (3-10X the LOD or samples 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) recovery for 5 analytes was outside the 75-125% control limits.

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11. For analytes where the MS is out of control, a post-digestion MS (PDS) is performed. A PDS was prepared at meaningful concentration levels for the following analytes: Aluminum, Antimony, Calcium, Iron, and Silicon.

12. All duplicate analyses were within the 20% Relative Percent Difference (RPD) control limit criteria. The ±20% RPD control limit applies to sample results greater 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 hardcopy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory

3/5/13
Date

m1302031hg%jjw.doc

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-206 Project Number: KP0190 Project Manager: Joan Kessner	**Reported:** 02/21/2013 13:10

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

LIONVILLE LABORATORY
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Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-206	
2620 Fermi Avenue	Project Number: KP0190	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	02/21/2013 13:10

J1R616

1302031-01 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**5590**		13.2	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Antimony	1.59	U	1.59	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Arsenic	**1.62**	B	2.65	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Barium	**59.1**		1.32	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Beryllium	**0.230**	B	0.529	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Boron	5.29	U	5.29	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Cadmium	0.529	U	0.529	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Calcium	**6490**		265	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Chromium	**4.31**		0.529	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Cobalt	**10.1**		5.29	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Copper	**16.8**		2.65	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Iron	**29900**		52.9	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Lead	**2.73**		1.32	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Magnesium	**4070**		198	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Manganese	**353**		13.2	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Molybdenum	**0.645**	B	5.29	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Nickel	**6.07**	B	10.6	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Potassium	**720**	B	1060	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Selenium	0.794	U	0.794	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Silicon	**897**		5.29	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Silver	0.529	U	0.529	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Sodium	**546**		132	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Vanadium	**96.1**		6.61	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Zinc	**54.4**		26.5	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Mercury	0.0246	U	0.0246	mg/kg dry	1	L302108	02/14/2013	02/15/2013	7471A

LIONVILLE LABORATORY
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Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-206	
2620 Fermi Avenue	Project Number: KP0190	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	02/21/2013 13:10

J1R618

1302031-02 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**5030**		13.6	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Antimony	1.64	U	1.64	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Arsenic	**1.68**	B	2.73	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Barium	**49.7**		1.36	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Beryllium	**0.231**	B	0.546	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Boron	5.46	U	5.46	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Cadmium	0.546	U	0.546	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Calcium	**6710**		273	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Chromium	**3.94**		0.546	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Cobalt	**10.5**		5.46	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Copper	**15.4**		2.73	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Iron	**32400**		54.6	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Lead	**2.46**		1.36	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Magnesium	**4940**		205	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Manganese	**377**		13.6	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Molybdenum	5.46	U	5.46	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Nickel	**6.47**	B	10.9	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Potassium	**595**	B	1090	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Selenium	0.819	U	0.819	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Silicon	**783**		5.46	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Silver	0.546	U	0.546	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Sodium	**402**		136	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Vanadium	**95.1**		6.82	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Zinc	**53.5**		27.3	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Mercury	0.0246	U	0.0246	mg/kg dry	1	L302108	02/14/2013	02/15/2013	7471A

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Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-206	
2620 Fermi Avenue	Project Number: KP0190	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	02/21/2013 13:10

J1R621

1302031-03 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**4430**		13.9	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Antimony	1.66	U	1.66	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Arsenic	**1.33**	B	2.77	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Barium	**81.2**		1.39	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Beryllium	**0.210**	B	0.554	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Boron	5.54	U	5.54	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Cadmium	0.554	U	0.554	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Calcium	**6110**		277	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Chromium	**2.09**		0.554	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Cobalt	**10.1**		5.54	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Copper	**14.8**		2.77	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Iron	**27900**		55.4	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Lead	**2.27**		1.39	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Magnesium	**3630**		208	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Manganese	**353**		13.9	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Molybdenum	5.54	U	5.54	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Nickel	**4.51**	B	11.1	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Potassium	**432**	B	1110	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Selenium	0.831	U	0.831	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Silicon	**655**		5.54	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Silver	0.554	U	0.554	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Sodium	**380**		139	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Vanadium	**84.8**		6.93	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Zinc	**49.0**		27.7	mg/kg dry	3	L302110	02/14/2013	02/20/2013	6010B
Mercury	0.0277	U	0.0277	mg/kg dry	1	L302108	02/14/2013	02/15/2013	7471A

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264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
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WC-Hanford, Inc.	Project: RC-206	
2620 Fermi Avenue	Project Number: KP0190	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	02/21/2013 13:10

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 L302108 - SW 7471A Prep										
Blank (L302108-BLK1)				Prepared: 02/14/2013 Analyzed: 02/15/2013						
Mercury	0.0281	U	0.0281	mg/kg wet						
Duplicate (L302108-DUP5)		**Source: 1302031-01**		Prepared: 02/14/2013 Analyzed: 02/15/2013						
Mercury	0.0275	U	0.0275	mg/kg dry		0.0246 U				20
Matrix Spike (L302108-MS5)		**Source: 1302031-01**		Prepared: 02/14/2013 Analyzed: 02/15/2013						
Mercury	0.155		0.0260	mg/kg dry	0.14452	0.0246 U	107	75-125		20
Reference (L302108-SRM1)				Prepared: 02/14/2013 Analyzed: 02/15/2013						
Mercury	1.30		0.0290	mg/kg wet	1.2900		101	62.6-138		
Batch L302110 - SW 3050B										
Blank (L302110-BLK1)				Prepared: 02/14/2013 Analyzed: 02/20/2013						
Aluminum	4.57	B	4.90	mg/kg wet						
Antimony	0.588	U	0.588	mg/kg wet						
Arsenic	0.980	U	0.980	mg/kg wet						
Barium	0.490	U	0.490	mg/kg wet						
Beryllium	0.196	U	0.196	mg/kg wet						
Boron	1.96	U	1.96	mg/kg wet						
Cadmium	0.196	U	0.196	mg/kg wet						
Calcium	9.88	B	98.0	mg/kg wet						
Chromium	0.196	U	0.196	mg/kg wet						
Cobalt	1.96	U	1.96	mg/kg wet						
Copper	0.980	U	0.980	mg/kg wet						
Iron	19.6	U	19.6	mg/kg wet						
Lead	0.490	U	0.490	mg/kg wet						
Magnesium	6.34	B	73.5	mg/kg wet						
Manganese	4.90	U	4.90	mg/kg wet						
Molybdenum	1.96	U	1.96	mg/kg wet						
Nickel	3.92	U	3.92	mg/kg wet						
Potassium	392	U	392	mg/kg wet						
Selenium	0.294	U	0.294	mg/kg wet						
Silicon	1.96	U	1.96	mg/kg wet						
Silver	0.196	U	0.196	mg/kg wet						
Sodium	49.0	U	49.0	mg/kg wet						
Vanadium	2.45	U	2.45	mg/kg wet						
Zinc	9.80	U	9.80	mg/kg wet						

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WC-Hanford, Inc.	Project: RC-206	
2620 Fermi Avenue	Project Number: KP0190	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	02/21/2013 13:10

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 L302110 - SW 3050B										
Duplicate (L302110-DUP2)		**Source: 1302031-01**		Prepared: 02/14/2013 Analyzed: 02/20/2013						
Aluminum	5880		13.2	mg/kg dry		5590			5	20
Antimony	1.59	U	1.59	mg/kg dry		1.59 U				20
Arsenic	1.95	B	2.65	mg/kg dry		1.62			19	20
Barium	68.6		1.32	mg/kg dry		59.1			15	20
Beryllium	0.265	B	0.529	mg/kg dry		0.230			14	20
Boron	5.29	U	5.29	mg/kg dry		5.29 U				20
Cadmium	0.529	U	0.529	mg/kg dry		0.529 U				20
Calcium	6570		265	mg/kg dry		6490			1	20
Chromium	4.61		0.529	mg/kg dry		4.31			7	20
Cobalt	11.2		5.29	mg/kg dry		10.1			11	20
Copper	18.1		2.65	mg/kg dry		16.8			8	20
Iron	31600		52.9	mg/kg dry		29900			5	20
Lead	2.83		1.32	mg/kg dry		2.73			3	20
Magnesium	4770		198	mg/kg dry		4070			16	20
Manganese	369		13.2	mg/kg dry		353			4	20
Molybdenum	0.625	B	5.29	mg/kg dry		0.645			3	20
Nickel	6.59	B	10.6	mg/kg dry		6.07			8	20
Potassium	839	B	1060	mg/kg dry		720			15	20
Selenium	0.794	U	0.794	mg/kg dry		0.794 U				20
Silicon	813		5.29	mg/kg dry		897			10	20
Silver	0.529	U	0.529	mg/kg dry		0.529 U				20
Sodium	577		132	mg/kg dry		546			5	20
Vanadium	94.0		6.61	mg/kg dry		96.1			2	20
Zinc	56.5		26.5	mg/kg dry		54.4			4	20
Matrix Spike (L302110-MS2)		**Source: 1302031-01**		Prepared: 02/14/2013 Analyzed: 02/20/2013						
Aluminum	8080		12.4	mg/kg dry	165.16	5590	1510*	75-125		
Antimony	10.3		1.49	mg/kg dry	41.290	1.59 U	25*	75-125		
Arsenic	133		2.48	mg/kg dry	165.16	1.62	80	75-125		
Barium	214		1.24	mg/kg dry	165.16	59.1	94	75-125		
Beryllium	3.56		0.495	mg/kg dry	4.1290	0.230	81	75-125		
Boron	64.2		4.95	mg/kg dry	82.580	5.29 U	78	75-125		
Cadmium	3.56		0.495	mg/kg dry	4.1290	0.529 U	86	75-125		
Calcium	11100		248	mg/kg dry	2064.5	6490	224*	75-125		
Chromium	18.1		0.495	mg/kg dry	16.516	4.31	83	75-125		
Cobalt	43.8		4.95	mg/kg dry	41.290	10.1	82	75-125		
Copper	33.8		2.48	mg/kg dry	20.645	16.8	83	75-125		

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WC-Hanford, Inc.	Project: RC-206	
2620 Fermi Avenue	Project Number: KP0190	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	02/21/2013 13:10

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 L302110 - SW 3050B									
Matrix Spike (L302110-MS2)		**Source: 1302031-01**	Prepared: 02/14/2013 Analyzed: 02/20/2013						
Iron	30300	49.5	mg/kg dry	82.580	29900	460*	75-125		
Lead	36.4	1.24	mg/kg dry	41.290	2.73	82	75-125		
Magnesium	6170	186	mg/kg dry	2064.5	4070	102	75-125		
Manganese	400	12.4	mg/kg dry	41.290	353	112	75-125		
Molybdenum	65.8	4.95	mg/kg dry	82.580	0.645	79	75-125		
Nickel	40.6	9.91	mg/kg dry	41.290	6.07	84	75-125		
Potassium	2540	991	mg/kg dry	2064.5	720	88	75-125		
Selenium	129	0.743	mg/kg dry	165.16	0.794 U	78	75-125		
Silicon	937	4.95	mg/kg dry	82.580	897	49*	75-125		
Silver	3.12	0.495	mg/kg dry	4.1290	0.529 U	76	75-125		
Sodium	2670	124	mg/kg dry	2064.5	546	103	75-125		
Vanadium	134	6.19	mg/kg dry	41.290	96.1	91	75-125		
Zinc	89.3	24.8	mg/kg dry	41.290	54.4	84	75-125		
Post Spike (L302110-PS2)		**Source: 1302031-01**	Prepared: 02/14/2013 Analyzed: 02/20/2013						
Aluminum	121000		ug/L	66000	63400	87	75-125		
Antimony	273		ug/L	300.00	1.78	90	75-125		
Calcium	125000		ug/L	62400	73600	83	75-125		
Iron	440000		ug/L	126000	339000	80	75-125		
Silicon	13200		ug/L	3300.0	10200	92	75-125		
Reference (L302110-SRM1)			Prepared: 02/14/2013 Analyzed: 02/20/2013						
Aluminum	11100	14.7	mg/kg wet	6670.0		166	0-200.89		
Antimony	30.2	1.76	mg/kg wet	53.000		57	0-235.8		
Arsenic	113	2.94	mg/kg wet	114.00		99	82.8-117.54		
Barium	292	1.47	mg/kg wet	307.00		95	79.8-120.2		
Beryllium	103	0.588	mg/kg wet	108.00		95	82.8-117.6		
Boron	78.1	5.88	mg/kg wet	85.100		92	67.5-132.8		
Cadmium	221	0.588	mg/kg wet	225.00		98	83.6-116.4		
Calcium	3260	294	mg/kg wet	3360.0		97	83.3-116.9		
Chromium	82.3	0.588	mg/kg wet	77.200		107	73.3-126.4		
Cobalt	163	5.88	mg/kg wet	166.00		98	80.7-118.7		
Copper	261	2.94	mg/kg wet	271.00		96	80.8-119.2		
Iron	8400	58.8	mg/kg wet	8420.0		100	78.6-121.1		
Lead	184	1.47	mg/kg wet	190.00		97	81.6-118.4		
Magnesium	7900	221	mg/kg wet	8570.0		92	83.2-116.7		
Manganese	1000	14.7	mg/kg wet	965.00		104	69.3-130.5		
Molybdenum	224	5.88	mg/kg wet	235.00		95	76.2-123.8		

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WC-Hanford, Inc.	Project: RC-206	
2620 Fermi Avenue	Project Number: KP0190	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	02/21/2013 13:10

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 L302110 - SW 3050B									
Reference (L302110-SRM1)			Prepared: 02/14/2013 Analyzed: 02/20/2013						
Nickel	223	11.8	mg/kg wet	221.00		101	79.6-120.8		
Potassium	13900	1180	mg/kg wet	14400		97	81.9-118.1		
Selenium	186	0.882	mg/kg wet	187.00		100	75.9-124.6		
Silicon	1260	5.88	mg/kg wet	807.00		156	0-219.3		
Silver	81.0	0.588	mg/kg wet	83.500		97	82.7-117.1		
Sodium	8890	147	mg/kg wet	9730.0		91	82.5-117.2		
Vanadium	108	7.35	mg/kg wet	98.700		109	75.9-123.6		
Zinc	200	29.4	mg/kg wet	199.00		100	78.4-121.6		

Lionville Laboratory Logbook #: 1194

SAMPLE DIGESTION RECORD

Digestion Batch #: L302110
Date/Time Initiated: 2/14/13 1050 weighed out 2/13 pm
Date/Time Completed: 2/14/13 1750
Analyst: MW
Matrix (circle): Soil Water Other
Method (circle one): 3005A 3010A 3050 200.7 (1994)
pH/Turbidity: N/A for Solids.
NOTE: All temperatures are recorded as corrected temperatures

Digested / Undigested (circle one)
Balance #: B14
Balance Cal Verification: Y NA
Temp: 94
BLOCK 1 2 (circle one)
3

Work Order #	Spike Vol (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/Sol/ TC	Texture	Color / Appearance	Artifact	Turb
L302015-01		0.55	50		TO	not fine	brown, granular	rocks	
L302110-DUP1		0.55	50			"	"	"	
MS1	0.5	0.55	50			"	"	"	
L302015-02		0.65	50			not fine	brown, sandy mud	rocks	
L302031-01		0.59	50			not fine	brown, granular	rocks	
L302110-DUP2		0.59	50			"	"	"	
MS2	0.5	0.63	50			"	"	"	
L302031-02		0.57	50			not fine	brown, granular	rocks	
03		0.55	50			coarse	nearly all rocks/gravel		
L302110-BLK1		0.51	50			coarse	boiling chips		
SRM1	⊗	0.51	50			fine	pink, sandy		

MW 2/14/13

Spiking IDs / Expiration Date:
MS# : 1300144

LCS#: 1201014 ⊗

Reagent IDs:
HNO_3 0000003390
HCl 0000018301
H_2O_2 L11A03
1:1 HNO_3 637-076-07
1:1 HCl

File ID#:

Data Review By/Date:
2/15/13

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Signed\SPI\Metals Digestion log.doc

Page #: 66

000000019

Lionville Laboratory

MERCURY PREPARATION

Analyst: [signature]
Date: 2/13/13 - 2/14/13
Start Time/Temp: 1315/94°
End Time/Temp: 1515/94°

Instrument ID: HG3.1
Balance # B14 /NA
Pipette Calibration (Daily) (Y)

Logbook # 1198
Prep Batch: L302108 W.E. 2/19/13
Worksheet: ~~HG021401~~ HG021501
SOP No. ME-HgCVAA
BLOCK (1) 2 (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.
Blank			W.E. 2/19/13	10ml	50	
0.2 µg/l		0.100	~~0.2 µg/l~~	10ml	50	
1.0 µg/l		0.500		10ml	50	
2.0 µg/l		1.000		10ml	50	
5.0 µg/l		2.500		10ml	50	
10.0 µg/l		5.000		10ml	50	
ICV		0.125	2.5	10ml	50	
CCV		0.250	5.0	10ml	50	
ICB/CCB				10ml	50	
L302108-BLK1				0.32	50	
SRM1		(#)	(#)	0.31	50	
1302013-01				0.36	50	
L302108-DUP1				0.34	50	
MS1		0.500	1.0	0.34	50	
1302013-02				0.35	50	
03				0.37	50	
04			0.39	~~0.39~~ 0.38 JF 2/13/13	50	
1302014-01				0.34	50	
L302108-DUP2				0.37	50	
MS2		0.500	1.0	0.37	50	
1302015-01				0.36	50	
L302108-DUP3				0.37	50	digestates test
MS3		0.500	1.0	0.36	50	
1302015-02				0.34	50	
1302030-01				0.34	50	
L302108-DUP4				0.35	50	
MS4		0.500	1.0	0.34	50	

Standard:	ID	Prep Date/Time
ICAL/MS	RI 1201235	2/14/1010
ICV/CCV/LCS	(I.V. 1201411)	

Reviewed By/Date: [signature] 2/19/13

se book # 1198 for std traceability information

Soil LCS True Value = 1.29 mg/Kg
Standard # 1201014

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

000000044

000000020

Lionville Laboratory

MERCURY PREPARATION

Analyst: [illegible]
Date 2/13/13
Start Time/Temp: 1447 0.4°C
End Time/Temp:

Instrument ID: HG3.1
Balance # B14 /NA
Pipette Calibration (Daily) (Y) ____

Logbook # 1198
Prep Batch: L302108
Worksheet: HG021507
SOP No. ME-HgCVAA
BLOCK (1) 2 (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.
1302030-02				0.36	50	
03				0.38	50	
1302031-01				0.38	50	
L302108-BDUP5				0.36	50	
MS5		0.500	1.0	0.34	50	
1302031-02				0.38	50	
03				0.33	50	

[illegible] 2/13/13

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

Reviewed By/Date: [illegible] 2/13/13

see book # 1198 for std traceability information

Soil LCS True Value = [illegible] mg/Kg
Standard # [illegible]

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

AAAAAAA45
0000000021

WET CHEMISTRY

Lionville Laboratory, PADEP Lab ID# 15-00009
264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-206	
2620 Fermi Avenue	Project Number: KP0190	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	02/20/2013 14:35

Analytical Report for Wet Chemistry

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1R616	1302031-01	Soil	02/11/2013 09:45	02/12/2013 19:21
J1R618	1302031-02	Soil	02/11/2013 09:30	02/12/2013 19:21
J1R621	1302031-03	Soil	02/11/2013 09:40	02/12/2013 19:21

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Case Narrative

Client: WC-HANFORD RC-206 KP0190
LVL#: 1302031 **Date Received:** 02-12-13

INORGANIC NARRATIVE

1. This narrative covers the analyses of 3 soil samples.

2. The samples were prepared and analyzed in accordance with the methods indicated on the data summary report.

   Lionville Lab (LvL) is NELAP accredited by the State of Pennsylvania. For a complete list 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.

3. Sample holding times as required by the method and/or contract were met.

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

5. The method blank for Hexavalent Chromium (Cr^{6+}) was within the method criteria.

6. The Laboratory Control Samples (LCS) for Cr^{6+} were within the laboratory control limits.

7. The matrix spike recoveries for Cr^{6+} were within the 75-125% control limits.

8. The replicate analyses were within the 20% Relative Percent Difference (RPD) control limit.

9. Results for soil samples are reported on a dry weight basis.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory

3/5/13
Date

njp\i02-031

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 9 pages.

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WC-Hanford, Inc.	Project: RC-206	
2620 Fermi Avenue	Project Number: KP0190	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	02/20/2013 14:35

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Results reported from a dilution; related reporting limits are elevated due to the presence of an interference or a high target value.
*	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
LOD	Limit of Detection (LOD): the minimum estimated concentration of a target analyte that can be detected reliably. Concentrations at the LOD or between the LOD and LOQ are flagged estimated with either a 'J' qualifier or client-specific qualifier.
LOQ	Limit of Quantitation (LOQ): the minimum concentration of a target analyte that can be quantified reliably

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2620 Fermi Avenue	Project Number: KP0190	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	02/20/2013 14:35

Wet Chemistry

Lionville Laboratory

Analyte	Result and Qualifier	LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
J1R616 (1302031-01) Soil									
%Solids	**96.1**		0.1	% by Weight	1	L302105	02/12/2013 13:32	02/12/2013 13:32	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.52	mg/kg dry	1	L302129	02/18/2013 13:20	02/19/2013 15:25	SW846 7196A
J1R618 (1302031-02) Soil									
%Solids	**96.4**		0.1	% by Weight	1	L302105	02/12/2013 13:32	02/12/2013 13:32	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.52	mg/kg dry	1	L302129	02/18/2013 15:05	02/19/2013 15:25	SW846 7196A
J1R621 (1302031-03) Soil									
%Solids	**98.4**		0.1	% by Weight	1	L302105	02/12/2013 13:32	02/12/2013 13:32	SM2540G
Hexavalent Chromium	0.20 U	0.20	0.51	mg/kg dry	1	L302129	02/18/2013 15:05	02/19/2013 15:25	SW846 7196A

Lionville Laboratory, PADEP Lab ID# 15-00009
264 Welsh Pool Road
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WC-Hanford, Inc.	Project: RC-206	
2620 Fermi Avenue	Project Number: KP0190	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	02/20/2013 14:35

Wet Chemistry - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L302105 - NO PREP										
Duplicate (L302105-DUP1)	**Source: 1302031-01**			Prepared & Analyzed: 02/12/2013 13:32						
%Solids	96.0		0.1	% by Weight		96.1			0.1	20
Batch L302129 - Default Prep GenChem										
Blank (L302129-BLK1)				Prepared: 02/18/2013 13:20 Analyzed: 02/19/2013 15:25						
Hexavalent Chromium	0.20 U	0.20	0.50	mg/kg wet						
LCS (L302129-BS1)				Prepared: 02/18/2013 13:20 Analyzed: 02/19/2013 15:25						
Hexavalent Chromium	4.10	0.20	0.50	mg/kg wet	4.0000		103	80-120		
LCS (L302129-BS2)				Prepared: 02/18/2013 13:20 Analyzed: 02/19/2013 15:25						
Hexavalent Chromium	975 D	20.0	50.0	mg/kg wet	1062.6		92	80-120		
Duplicate (L302129-DUP2)	**Source: 1302031-01**			Prepared: 02/18/2013 13:20 Analyzed: 02/19/2013 15:25						
Hexavalent Chromium	0.21 U	0.21	0.52	mg/kg dry		0.21 U				20
Matrix Spike (L302129-MS3)	**Source: 1302031-01**			Prepared: 02/18/2013 13:20 Analyzed: 02/19/2013 15:25						
Hexavalent Chromium	3.90	0.21	0.52	mg/kg dry	4.1620	0.21 U	94	75-125		
Matrix Spike (L302129-MS4)	**Source: 1302031-01**			Prepared: 02/18/2013 13:20 Analyzed: 02/19/2013 15:25						
Hexavalent Chromium	1080 D	20.8	52.0	mg/kg dry	1132.4	0.21 U	95	75-125		