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 7/31/12
INITIAL/DATE

COMMENTS:

SDG K3950 SAF-RC-206

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 100-C-7:1 SPA2

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

27 July 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 #	1207034
SDG #	K3950
SAF #	RC-206
Date Received	07/16/12
# Samples	15
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 44 pages.

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

CHAIN OF CUSTODY

Lionville Laboratory Use Only

1207034

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Lionville Laboratory
A Division of Eberline Analytical Corporation

Client W.C. Hanford SAF# RC-206

Est. Final Proj. Sampling Date

Project#

Project Contact/Phone#

Lionville Laboratory Project Manager Arlotta Johnson

QC SW Del Std TAT 21 days

Date Rec'd 7-16-12 Date Due 8-06-12

Refrigerator #		A	B
#/Type Container	Liquid	2	2
	Solid	1pl	1pl
Volume	Liquid	125	125
	Solid	—	—
Preservatives			

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Cr+6 Metal + Hg, CN, Cr+6

Lionville Laboratory Use Only

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	Met/Hg	Cr Lot
01	J1PTL4			S	7-11-12	7:08	X	X
02	J1PTL5					7:18	X	X
03	J1PTL6					7:24	X	X
04	J1PTL7					7:33	X	X
05	J1PTL8					7:42	X	X
06	J1PTL9					7:49	X	X
07	J1PTM0					7:57	X	X
08	J1PTM1					8:06	X	X
09	J1PTM2					8:13	X	X
10	J1PTM3					8:21	X	X

Special Instructions:

① Met = HSL + B, Mo, Si (no TL)

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	7-16-12	09:10

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Lionville Laboratory Use Only

1207034

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Lionville Laboratory
A Division of Eberline Analytical Corporation

Client: W.C. Hanford SAF# RC-206
Est. Final Proj. Sampling Date:
Project#: Allegro
Project Contact/Phone#:
Lionville Laboratory Project Manager: Charlotte Johnson
QC: Del: TAT:

Date Rec'd: 7-16-12 Date Due:

Refrigerator #									A 2		B 2					
#/Type Container	Liquid															
	Solid								1pl		1pl					
Volume	Liquid															
	Solid								125		125					
Preservatives									—		—					
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal	CN						
		Lionville Laboratory Use Only														
									Met/Hg		Cnet					

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	Met/Hg	CNet
11	JIPTM4			S	7-11-12	8:31	X	X
12	JIPTM5			↓	↓	8:37	X	X
13	JIPTM6					8:46	X	X
14	JIPTM7					7:08	X	X
15	JIPTN8					9:04	X	X

Special Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
FedEx	[signature]	7-16-12	0910

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000004

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-206-053	Page 1 of 3

Collector A. Dunnum	**Company Contact** J. Kessner	**Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH
Price Code 8L	**Data Turnaround** 21 Days		
Project Designation Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites - F	**Sampling Location** 100-C-7:1 SPA2		**SAF No.** RC-206
Ice Chest No. WCH-1055	**Field Logbook No.** EL-1655-06	**COA** R00C712000	**Method of Shipment** Fed Ex
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A110468		**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										
J1PTL4	SOIL	7.11.12	7:08	X	X								
J1PTL5	SOIL	7.11.12	7:18	X	X								
J1PTL6	SOIL	7.11.12	7:24	X	X								
J1PTL7	SOIL	7.11.12	7:33	X	X								
J1PTL8	SOIL	7.11.12	7:42	X	X								

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Anton Dunnum	7.11.12 9:28	C. Martinez / C. Martinez	0930 07/11/12
C. Martinez / C. Martinez	1630 07/11/12	A. Freier / A. Freier	1060#1 1630 7-11-12
A. Freier / A. Freier	WCH 1060#1 7-12-12 1040	Fed Ex	
Fed Ex	7.16.12 / 0910	[illegible]	7.16.12 / 0910

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 DWS Lea DATE 7/12/12

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

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

WCH-EE-011

00000005

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-206-053	Page 2 of 3

Collector A. Dunnum	**Company Contact** J. Kessner	**Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH
Price Code 8L	**Data Turnaround** 21 Days		
Project Designation Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites - F	**Sampling Location** 100-C-7:1 SPA2		**SAF No.** RC-206
Ice Chest No. WCH-11-055	**Field Logbook No.** EL-1655-06	**COA** R00C712000	**Method of Shipment** Fed Ex
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A110468		**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										
J1PTL9	SOIL	7-11-12	7:49	X	X								
J1PTM0	SOIL	7-11-12	7:57	X	X								
J1PTM1	SOIL	7-11-12	8:06	X	X								
J1PTM2	SOIL	7-11-12	8:13	X	X								
J1PTM3	SOIL	7-11-12	8:21	X	X								

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By/Removed From	Received By/Stored In	Date/Time
[signature]	C. Martinez / C. Martinez	7-11-12 9:20 / 07/11/12 0920
Relinquished By/Removed From	Received By/Stored In	Date/Time
C. Martinez / C. Martinez	WCH 1060#1 A. Freier / A. Freier	07/11/12 1630 / 7-11-12 1630
Relinquished By/Removed From	Received By/Stored In	Date/Time
WCH A. Freier / A. Freier	Fed Ex	7-12-12 1040 / 1060#1
Relinquished By/Removed From	Received By/Stored In	Date/Time
Fed Ex	[signature]	7-16-12 / 0910 / 7-16-12 / 0910
Relinquished By/Removed From	Received By/Stored In	Date/Time
Relinquished By/Removed From	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 Anshea DATE 7/12/12

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

000000006

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-206-053	Page 3 of 3

Collector A. Dunnum	**Company Contact** J. Kessner	**Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH
Price Code 8L	**Data Turnaround** 21 Days		
Project Designation Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites - F	**Sampling Location** 100-C-7:1 SPA2		**SAF No.** RC-206
Ice Chest No. WCH-11-055	**Field Logbook No.** EL-1655-06	**COA** R00C712000	**Method of Shipment** Fed Ex
Shipped To EBERLINE SERVICES LIONVILLE	**Offsite Property No.** A 1104468		**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										
J1PTM4	SOIL	7.11.12	8:31	X	X								
J1PTM5	SOIL	7.11.12	8:37	X	X								
J1PTM6	SOIL	7.11.12	8:46	X	X								
J1PTM7	SOIL	7.11.12	7:08	X	X								

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: A. Dunnum 7.11.12 9:10	Received By/Stored In: C. Martinez / C. Martinez 07/11/12	Date/Time 0920
Relinquished By/Removed From: C. Martinez / C. Martinez 07/11/12	Received By/Stored In: 1060#1 A. Freier A. Freier 7-11-12	Date/Time 1630
Relinquished By/Removed From: WCH A. Freier A. Freier 7-12-12	Received By/Stored In: Fed Ex	Date/Time 1060#1 1040
Relinquished By/Removed From: Fed Ex 7.16.12	Received By/Stored In: [illegible] 7.16.12	Date/Time 0910
Relinquished By/Removed From	Received By/Stored In	Date/Time
Relinquished By/Removed From	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 DWShea DATE 7/12/12

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=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

000000007

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-206-054	Page 1 of 1

Collector A. Dunnum	Company Contact J. Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code 8L	Data Turnaround 21 Days		
Project Designation Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites - F	Sampling Location 100-C-7:1 (Comp1)		SAF No. RC-206
Ice Chest No. WCH-11-055	Field Logbook No. EL-1655-06	COA R00C712000	Method of Shipment Fed Ex
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A 110468		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		
J1PTN8	SOIL	7-11-12	9:04	X	X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Anton Dunnum	7-11-12 9:20	C. Martinez / C. Martinez	07/11/12 0920
C. Martinez / C. Martinez	07/11/12 1630	1060 #1 A. Freier A. Freier	7-11-12 1630
A. Freier A. Freier (LOCH)	7-12-12 1060#1 1040	Fed Ex	
Fed Ex	7-16-12 / 0910	[illegible]	7-16-12 / 0910

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 DWSkeen DATE 7/12/12

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

0000000008

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: W.C. Hanford
Project/SAF/SOW/Release #: RC-206

Date: 7-16-12

LvL Batch #: 1207034

Sample Custodian: D. [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7986 1433 9709
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 11.0	°C	Cooler # WCH-11-055
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 See #5	
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 See #5	
16. Project Manager contacted concerning any discrepancies?	☑ Yes	☐ No	☐ N/A
Person Contacted OJ		Date 7-16-12	

SR-002-B.doc

000000009

METALS

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1PTL4	1207034-01	Soil	07/11/2012 07:08	07/16/2012 09:10
J1PTL5	1207034-02	Soil	07/11/2012 07:18	07/16/2012 09:10
J1PTL6	1207034-03	Soil	07/11/2012 07:24	07/16/2012 09:10
J1PTL7	1207034-04	Soil	07/11/2012 07:33	07/16/2012 09:10
J1PTL8	1207034-05	Soil	07/11/2012 07:42	07/16/2012 09:10
J1PTL9	1207034-06	Soil	07/11/2012 07:49	07/16/2012 09:10
J1PTM0	1207034-07	Soil	07/11/2012 07:57	07/16/2012 09:10
J1PTM1	1207034-08	Soil	07/11/2012 08:06	07/16/2012 09:10
J1PTM2	1207034-09	Soil	07/11/2012 08:13	07/16/2012 09:10
J1PTM3	1207034-10	Soil	07/11/2012 08:21	07/16/2012 09:10
J1PTM4	1207034-11	Soil	07/11/2012 08:31	07/16/2012 09:10
J1PTM5	1207034-12	Soil	07/11/2012 08:37	07/16/2012 09:10
J1PTM6	1207034-13	Soil	07/11/2012 08:46	07/16/2012 09:10
J1PTM7	1207034-14	Soil	07/11/2012 07:08	07/16/2012 09:10
J1PTN8	1207034-15	Soil	07/11/2012 09:04	07/16/2012 09:10

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

Case Narrative

Client: WC-HANFORD RC-206
LVL#: 1207034
SDG/SAF#: K3950/RC-206

W.O.#: 60049-001-001-0001-00
Date Received: 07-16-12

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 15 soil samples.

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

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 the 90-110% control limits (80-120% for Mercury).

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

7. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation, 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) recoveries for 7 analytes were outside the 75-125% control limits.

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

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.

following analytes:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J1PTL4	Aluminum	22,000	67.8
	Antimony	100	92.6
	Calcium	20,800	91.6
	Iron	42,000	37.3
	Lead	100	86.0
	Manganese	1,000	59.1
	Silicon	2,100	69.1

12. All duplicate analysis for were within the 20% Relative Percent Difference (RPD) control limits. 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 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

7/27/12
Date

jjw/07-034hg%.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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

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

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTL4
1207034-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Metals by SW846 6000/7000 series									
Aluminum	**7850**		4.48	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.302**	B	0.537	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**2.23**		0.896	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**61.7**		0.448	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.272**		0.179	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.54**	B	1.79	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0824**	B	0.179	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**3030**		89.6	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**10.7**		0.179	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**4.92**		1.79	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**9.15**		0.896	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**17400**		17.9	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**3.23**		0.448	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**3350**		67.2	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**274**		4.48	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.332**	B	1.79	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**8.60**		3.58	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**1400**		358	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.269	U	0.269	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**729**		1.79	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.179	U	0.179	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**170**		44.8	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**42.1**		2.24	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**33.6**		8.96	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0258	U	0.0258	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTL5
1207034-02 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**6950**		4.39	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.364**	B	0.527	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**2.21**		0.878	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**60.1**		0.439	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.273**		0.176	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.50**	B	1.76	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0944**	B	0.176	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**4370**		87.8	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**9.78**		0.176	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**5.47**		1.76	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**11.0**		0.878	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**17800**		17.6	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**3.04**		0.439	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**3750**		65.8	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**275**		4.39	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.402**	B	1.76	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**8.29**		3.51	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**1180**		351	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.263	U	0.263	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**691**		1.76	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.176	U	0.176	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**244**		43.9	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**44.6**		2.19	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**34.9**		8.78	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0248	U	0.0248	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/26/2012 17:34

J1PTL6
1207034-03 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**8180**		4.06	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.341**	B	0.488	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**2.20**		0.813	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**65.5**		0.406	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.284**		0.163	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.60**	B	1.63	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0870**	B	0.163	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**3270**		81.3	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**10.6**		0.163	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**5.15**		1.63	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**9.90**		0.813	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**16500**		16.3	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**3.07**		0.406	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**3510**		61.0	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**255**		4.06	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.261**	B	1.63	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**8.91**		3.25	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**1400**		325	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.244	U	0.244	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**662**		1.63	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.163	U	0.163	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**178**		40.6	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**41.4**		2.03	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**32.9**		8.13	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0252	U	0.0252	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/26/2012 17:34

J1PTL7
1207034-04 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**7300**		3.88	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.323**	B	0.466	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**1.87**		0.776	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**61.4**		0.388	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.250**		0.155	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.57**		1.55	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0875**	B	0.155	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**3180**		77.6	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**9.95**		0.155	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**5.01**		1.55	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**9.37**		0.776	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**16500**		15.5	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**2.85**		0.388	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**3500**		58.2	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**263**		3.88	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.235**	B	1.55	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**8.38**		3.10	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**1290**		310	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.233	U	0.233	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**618**		1.55	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.155	U	0.155	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**174**		38.8	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**43.0**		1.94	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**33.2**		7.76	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0245	U	0.0245	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTL8

1207034-05 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Metals by SW846 6000/7000 series									
Aluminum	**5630**		4.63	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.443**	B	0.556	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**2.06**		0.927	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**39.8**		0.463	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.228**		0.185	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.16**	B	1.85	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0614**	B	0.185	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**4890**		92.7	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**7.53**		0.185	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**6.46**		1.85	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**13.6**		0.927	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**19600**		18.5	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**2.69**		0.463	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**4240**		69.5	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**251**		4.63	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.317**	B	1.85	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**8.43**		3.71	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**733**		371	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.278	U	0.278	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**288**		1.85	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.185	U	0.185	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**254**		46.3	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**57.9**		2.32	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**39.1**		9.27	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0270	U	0.0270	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTL9
1207034-06 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**6140**		4.50	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.504**	B	0.540	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**3.16**		0.901	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**60.6**		0.450	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.231**		0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.61**	B	1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0756**	B	0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**7090**		90.1	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**7.80**		0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**6.17**		1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**13.2**		0.901	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**18200**		18.0	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**3.97**		0.450	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**3960**		67.6	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**265**		4.50	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.351**	B	1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**8.56**		3.60	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**1010**		360	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.270	U	0.270	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**609**		1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.180	U	0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**232**		45.0	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**51.7**		2.25	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**42.2**		9.01	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0267	U	0.0267	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTM0
1207034-07 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Metals by SW846 6000/7000 series									
Aluminum	**5590**		4.42	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.355**	B	0.531	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**2.26**		0.884	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**54.0**		0.442	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.239**		0.177	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.19**	B	1.77	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0691**	B	0.177	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**5210**		88.4	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**6.74**		0.177	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**6.34**		1.77	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**12.5**		0.884	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**18100**		17.7	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**2.94**		0.442	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**4080**		66.3	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**252**		4.42	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.254**	B	1.77	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**7.37**		3.54	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**888**		354	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.265	U	0.265	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**434**		1.77	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.177	U	0.177	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**212**		44.2	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**47.9**		2.21	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**37.7**		8.84	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	**0.0482**		0.0233	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/26/2012 17:34

J1PTM1
1207034-08 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**5570**		4.24	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.369**	B	0.508	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**1.68**		0.847	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**38.1**		0.424	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.244**		0.169	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.36**	B	1.69	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0694**	B	0.169	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**5020**		84.7	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**5.69**		0.169	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**6.16**		1.69	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**14.3**		0.847	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**19300**		16.9	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**2.50**		0.424	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**4320**		63.5	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**249**		4.24	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.299**	B	1.69	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**7.60**		3.39	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**553**		339	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.254	U	0.254	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**488**		1.69	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.169	U	0.169	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**241**		42.4	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**58.4**		2.12	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**41.5**		8.47	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0269	U	0.0269	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTM2
1207034-09 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**8690**		4.50	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.344**	B	0.540	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**3.56**		0.900	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**84.6**		0.450	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.259**		0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.51**	B	1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.129**	B	0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**12000**		90.0	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**13.6**		0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**4.76**		1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**13.1**		0.900	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**13600**		18.0	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**3.67**		0.450	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**4490**		67.5	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**230**		4.50	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	1.80	U	1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**12.1**		3.60	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**1150**		360	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.270	U	0.270	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**759**		1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.180	U	0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**394**		45.0	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**31.3**		2.25	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**33.7**		9.00	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0275	U	0.0275	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTM3
1207034-10 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**6340**		4.49	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.341**	B	0.539	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**2.33**		0.899	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**47.0**		0.449	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.261**		0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.08**	B	1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0742**	B	0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**5200**		89.9	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**8.31**		0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**6.39**		1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**14.3**		0.899	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**18900**		18.0	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**2.86**		0.449	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**4650**		67.4	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**266**		4.49	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.334**	B	1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**10.7**		3.60	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**761**		360	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.270	U	0.270	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**319**		1.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.180	U	0.180	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**207**		44.9	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**53.5**		2.25	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**39.6**		8.99	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0245	U	0.0245	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTM4
1207034-11 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**7540**		4.86	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.376**	B	0.583	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**2.80**		0.971	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**67.9**		0.486	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.298**		0.194	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.65**	B	1.94	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.124**	B	0.194	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**4310**		97.1	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**9.51**		0.194	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**7.62**		1.94	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**15.0**		0.971	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**19000**		19.4	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**3.52**		0.486	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**4460**		72.8	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**287**		4.86	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.283**	B	1.94	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**11.1**		3.88	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**916**		388	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.291	U	0.291	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**673**		1.94	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.194	U	0.194	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**234**		48.6	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**53.2**		2.43	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**41.0**		9.71	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0252	U	0.0252	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTM5
1207034-12 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**4490**		3.71	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.373**	B	0.446	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**1.76**		0.743	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**36.7**		0.371	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.211**		0.149	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.02**	B	1.49	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0561**	B	0.149	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**5900**		74.3	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**4.26**		0.149	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**6.12**		1.49	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**12.7**		0.743	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**17600**		14.9	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**2.04**		0.371	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**3630**		55.7	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**221**		3.71	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.285**	B	1.49	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**6.37**		2.97	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**407**		297	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.223	U	0.223	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**282**		1.49	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.149	U	0.149	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**227**		37.1	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**54.1**		1.86	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**37.5**		7.43	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0239	U	0.0239	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTM6
1207034-13 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Metals by SW846 6000/7000 series									
Aluminum	**7510**		4.36	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.444**	B	0.524	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**2.60**		0.873	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**60.9**		0.436	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.283**		0.175	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.76**		1.75	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0935**	B	0.175	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**5260**		87.3	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**9.63**		0.175	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**7.01**		1.75	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**14.2**		0.873	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**18400**		17.5	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**3.43**		0.436	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**4350**		65.4	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**283**		4.36	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.298**	B	1.75	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**10.4**		3.49	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**1070**		349	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.262	U	0.262	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**620**		1.75	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.175	U	0.175	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**253**		43.6	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**49.2**		2.18	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**40.0**		8.73	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0276	U	0.0276	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTM7
1207034-14 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**7520**		4.40	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.358**	B	0.528	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**2.21**		0.880	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**64.5**		0.440	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.258**		0.176	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.57**	B	1.76	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0959**	B	0.176	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**3180**		88.0	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**10.5**		0.176	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**5.20**		1.76	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**9.00**		0.880	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**16400**		17.6	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**3.15**		0.440	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**3440**		66.0	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**250**		4.40	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.263**	B	1.76	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**8.41**		3.52	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**1400**		352	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.264	U	0.264	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**654**		1.76	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.176	U	0.176	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**168**		44.0	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**41.7**		2.20	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**32.9**		8.80	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	0.0258	U	0.0258	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

J1PTN8
1207034-15 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**6220**		4.20	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Antimony	**0.384**	B	0.503	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Arsenic	**2.19**		0.839	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Barium	**61.3**		0.420	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Beryllium	**0.232**		0.168	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Boron	**1.68**		1.68	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cadmium	**0.0939**	B	0.168	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Calcium	**4250**		83.9	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Chromium	**9.05**		0.168	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Cobalt	**5.77**		1.68	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Copper	**11.1**		0.839	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Iron	**17200**		16.8	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Lead	**3.15**		0.420	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Magnesium	**3520**		62.9	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Manganese	**250**		4.20	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Molybdenum	**0.282**	B	1.68	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Nickel	**7.37**		3.36	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Potassium	**1120**		336	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Selenium	0.252	U	0.252	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silicon	**551**		1.68	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Silver	0.168	U	0.168	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Sodium	**257**		42.0	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Vanadium	**45.5**		2.10	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Zinc	**36.6**		8.39	mg/kg dry	1	L207110	07/20/2012	07/23/2012	6010B
Mercury	**0.0253**	B	0.0267	mg/kg dry	1	L207095	07/18/2012	07/20/2012	7471A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

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 L207095 - SW 7471A Prep										
Blank (L207095-BLK1)				Prepared: 07/18/2012 Analyzed: 07/20/2012						
Mercury	0.0281	U	0.0281	mg/kg wet						
Duplicate (L207095-DUP4)		**Source: 1207034-01**		Prepared: 07/18/2012 Analyzed: 07/20/2012						
Mercury	0.0258	U	0.0258	mg/kg dry		0.0258 U				20
Matrix Spike (L207095-MS4)		**Source: 1207034-01**		Prepared: 07/18/2012 Analyzed: 07/20/2012						
Mercury	0.149		0.0251	mg/kg dry	0.13934	0.0258 U	107	75-125		20
Reference (L207095-SRM1)				Prepared: 07/18/2012 Analyzed: 07/20/2012						
Mercury	1.29		0.0300	mg/kg wet	1.2900		100	62.6-138		
Batch L207110 - SW 3050B										
Blank (L207110-BLK1)				Prepared: 07/20/2012 Analyzed: 07/23/2012						
Aluminum	4.90	U	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	98.0	U	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	73.5	U	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						

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:34

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 L207110 - SW 3050B										
Duplicate (L207110-DUP2)		**Source: 1207034-01**		Prepared: 07/20/2012 Analyzed: 07/23/2012						
Aluminum	7550		4.25	mg/kg dry		7850			4	20
Antimony	0.416	B	0.510	mg/kg dry		0.302			32*	20
Arsenic	2.10		0.850	mg/kg dry		2.23			6	20
Barium	60.9		0.425	mg/kg dry		61.7			1	20
Beryllium	0.255		0.170	mg/kg dry		0.272			6	20
Boron	1.72		1.70	mg/kg dry		1.54			11	20
Cadmium	0.0821	B	0.170	mg/kg dry		0.0824			0.4	20
Calcium	3010		85.0	mg/kg dry		3030			0.7	20
Chromium	10.9		0.170	mg/kg dry		10.7			2	20
Cobalt	4.91		1.70	mg/kg dry		4.92			0.07	20
Copper	9.19		0.850	mg/kg dry		9.15			0.4	20
Iron	16900		17.0	mg/kg dry		17400			3	20
Lead	3.16		0.425	mg/kg dry		3.23			2	20
Magnesium	3280		63.8	mg/kg dry		3350			2	20
Manganese	258		4.25	mg/kg dry		274			6	20
Molybdenum	0.254	B	1.70	mg/kg dry		0.332			27*	20
Nickel	8.87		3.40	mg/kg dry		8.60			3	20
Potassium	1350		340	mg/kg dry		1400			4	20
Selenium	0.255	U	0.255	mg/kg dry		0.269 U				20
Silicon	751		1.70	mg/kg dry		729			3	20
Silver	0.170	U	0.170	mg/kg dry		0.179 U				20
Sodium	168		42.5	mg/kg dry		170			0.8	20
Vanadium	43.2		2.13	mg/kg dry		42.1			3	20
Zinc	32.1		8.50	mg/kg dry		33.6			4	20
Matrix Spike (L207110-MS2)		**Source: 1207034-01**		Prepared: 07/20/2012 Analyzed: 07/23/2012						
Aluminum	8590		4.25	mg/kg dry	170.04	7850	431*	75-125		
Antimony	13.7		0.510	mg/kg dry	42.511	0.302	32*	75-125		
Arsenic	138		0.850	mg/kg dry	170.04	2.23	80	75-125		
Barium	203		0.425	mg/kg dry	170.04	61.7	83	75-125		
Beryllium	3.85		0.170	mg/kg dry	4.2511	0.272	84	75-125		
Boron	66.1		1.70	mg/kg dry	85.021	1.54	76	75-125		
Cadmium	3.50		0.170	mg/kg dry	4.2511	0.0824	80	75-125		
Calcium	5810		85.0	mg/kg dry	2125.5	3030	131*	75-125		
Chromium	24.0		0.170	mg/kg dry	17.004	10.7	79	75-125		
Cobalt	37.1		1.70	mg/kg dry	42.511	4.92	76	75-125		
Copper	25.9		0.850	mg/kg dry	21.255	9.15	79	75-125		

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:38

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 L207110 - SW 3050B									
Matrix Spike (L207110-MS2)		**Source: 1207034-01**	Prepared: 07/20/2012 Analyzed: 07/23/2012						
Iron	16900	17.0	mg/kg dry	85.021	17400	-588*	75-125		
Lead	33.1	0.425	mg/kg dry	42.511	3.23	70*	75-125		
Magnesium	5170	63.8	mg/kg dry	2125.5	3350	86	75-125		
Manganese	291	4.25	mg/kg dry	42.511	274	41*	75-125		
Molybdenum	67.1	1.70	mg/kg dry	85.021	0.332	79	75-125		
Nickel	40.5	3.40	mg/kg dry	42.511	8.60	75	75-125		
Potassium	2990	340	mg/kg dry	2125.5	1400	75	75-125		
Selenium	133	0.255	mg/kg dry	170.04	0.269 U	78	75-125		
Silicon	883	1.70	mg/kg dry	85.021	729	182*	75-125		
Silver	3.24	0.170	mg/kg dry	4.2511	0.179 U	76	75-125		
Sodium	1910	42.5	mg/kg dry	2125.5	170	82	75-125		
Vanadium	75.7	2.13	mg/kg dry	42.511	42.1	79	75-125		
Zinc	68.2	8.50	mg/kg dry	42.511	33.6	81	75-125		
Reference (L207110-SRM1)			Prepared: 07/20/2012 Analyzed: 07/23/2012						
Aluminum	8740	15.0	mg/kg wet	6670.0		131	0-200.89		
Antimony	42.0	1.80	mg/kg wet	53.000		79	0-235.8		
Arsenic	118	3.00	mg/kg wet	114.00		104	82.8-117.54		
Barium	319	1.50	mg/kg wet	307.00		104	79.8-120.2		
Beryllium	104	0.600	mg/kg wet	108.00		97	82.8-117.6		
Boron	84.0	6.00	mg/kg wet	85.100		99	67.5-132.8		
Cadmium	224	0.600	mg/kg wet	225.00		99	83.6-116.4		
Calcium	3380	300	mg/kg wet	3360.0		101	83.3-116.9		
Chromium	84.4	0.600	mg/kg wet	77.200		109	73.3-126.4		
Cobalt	161	6.00	mg/kg wet	166.00		97	80.7-118.7		
Copper	265	3.00	mg/kg wet	271.00		98	80.8-119.2		
Iron	8260	60.0	mg/kg wet	8420.0		98	78.6-121.1		
Lead	183	1.50	mg/kg wet	190.00		96	81.6-118.4		
Magnesium	8660	225	mg/kg wet	8570.0		101	83.2-116.7		
Manganese	997	15.0	mg/kg wet	965.00		103	69.3-130.5		
Molybdenum	243	6.00	mg/kg wet	235.00		103	76.2-123.8		
Nickel	229	12.0	mg/kg wet	221.00		104	79.6-120.8		
Potassium	13700	1200	mg/kg wet	14400		95	81.9-118.1		
Selenium	191	0.900	mg/kg wet	187.00		102	75.9-124.6		
Silicon	1020	6.00	mg/kg wet	807.00		127	0-219.3		
Silver	81.8	0.600	mg/kg wet	83.500		98	82.7-117.1		
Sodium	9140	150	mg/kg wet	9730.0		94	82.5-117.2		

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: K3950	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/26/2012 17:38

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 L207110 - SW 3050B									
Reference (L207110-SRM1)			Prepared: 07/20/2012 Analyzed: 07/23/2012						
Vanadium	103	7.50	mg/kg wet	98.700		105	75.9-123.6		
Zinc	196	30.0	mg/kg wet	199.00		99	78.4-121.6		

Lionville Laboratory

Logbook #: 1178

SAMPLE DIGESTION RECORD

Digestion Batch #: L207110
Date/Time Initiated: 7/19/12-7/20/12 0950
Date/Time Completed: 7/20/12 1550
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: 95
BLOCK 1 2 (circle one)

Work Order #	Spike Vol (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL) w.f. MW 7/20/12	pH	Type: To/Sol/TC	Texture	Color / Appearance	Artifact	Turb
1207019-01		0.59	0.50		TO	not fine	brown sandy	rocks	
L207110-DUP1		0.60	50						
MS1	0.5 *	0.61	50						
1207034-01		0.56	50			not fine	light brown/sandy	compacted soil/lumps	
L207110-DUP2		0.59	50						
MS2	0.5	0.59	50						
1207034-02		0.58	50			fine	light brown/sandy	rocks	
03		0.62	50			fine	brown/powdery	lumps	
04		0.65	50			fine	brown/powdery	lump	
05		0.55	50			fine	brown/powdery	rocks	
06		0.56	50			fine	light brown/powdery	lots of rocks	
07		0.57	50			fine	light brown/powdery	lots of rocks	
08		0.60	50			not fine	brown/granular	rocks	
09		0.56	50			fine	light brown/powdery	rocks	
10		0.56	50			fine	light brown/powdery	rocks	
11		0.52	50			fine	light brown/powdery	rocks	
12		0.63	50			not fine	brown/granular	rocks	
13		0.58	50			fine	light brown/powdery	rocks	
14		0.57	50			not fine	brown/granular	rocks/lumps	
15		0.60	50			fine	brown/granular	rocks	
L207110-BLK1		0.51	50			coarse	white/boiling chips		
SRM1	*	0.50	50			fine	pink/sandy		

MW 7/19/12

Spiking IDs / Expiration Date:
MS#: 1200457

LCS#: 1101357 *

Reagent IDs:
HNO_3 108023
HCl 101031
H_2O_2 1409003
1:1 HNO_3 637-066-02
1:1 HCl

File ID#:

Data Review By/Date:
Rev 7/27/12

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

* also 0.25 mg 1200380 U-1200386 25

Page #:

Lionville Laboratory

MERCURY PREPARATION

Analyst: MWL
Date 7/18/12 - 7/19/12
Start Time/Temp: 1400 / 96°
End Time/Temp: 1430 / 97°

Instrument ID: HG3.2
Balance # B09 /NA
Pipette Calibration (Daily) (Y)

Logbook # 1143
Prep Batch: L207095
Worksheet: HG072002
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		10 ml	50	
1.0 ug/l		0.500		10 ml	50	
2.0 ug/l		1.000		10 ml	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	
L207095-BS1				0.32	50	
SRM1		(*)	(*)	0.30	50	
1207020-09				0.32	50	
L207095-DUP1				0.33	50	
MS1		0.500	1.0	0.33	50	
1207030-01				0.36	50	
L207095-DUP2				0.36	50	
MS2		0.500	1.0	0.35	50	
1207032-01				0.38	50	
L207095-DUP3				0.37	50	
MS3		0.500	1.0	0.38	50	
1207034-01				0.35	50	
L207095-DUP4				0.35	50	
MS4		0.500	1.0	0.36	50	
1207034-02				0.37	50	
03				0.36	50	
04				0.37	50	
05				0.34	50	

Standard:	ID	Prep Date/Time
ICAL/MS	RI 1200588	7/19/12 1030
ICV/CCV/LCS	(I.V. 1200532)	N/A

Reviewed By/Date: RBO 7/24/12

Soil LCS True Value = 1.79 mg/Kg
Standard # 1101357 (*)

see book # 1143 pg 1 for std traceability information
Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Water LCS Spiking Concentration: 1.0 µg/ml

ME-HgCVAA-Prep0910

Page #:

000000035
RRRRRR19

Lionville Laboratory

MERCURY PREPARATION

Analyst: [illegible]
Date 7/18/12-7/19/12
Start Time/Temp: 019
End Time/Temp: See Bg

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

Logbook # 1143
Prep Batch: L207095
Worksheet: HG072002
SOP No. ME-HgCVAA
BLOCK 1 (3) 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.
1207034-06				0.34	50	
07				0.39	50	
08				0.34	50	
09				0.33	50	
10				0.37	50	
11				0.36	50	
12				0.38	50	
13				0.33	50	
14				0.35	50	
15				0.34	50	

[illegible] 7/18/12

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

Soil LCS True Value = See page 019 mg/Kg
Standard # _____

Reviewed By/Date: [illegible]

se book # 1143 pg 1 for std traceability information
Water Matrix Spiking Solution Concentration = 0.1 µg/ml
ater LCS Spiking Concentration: 1.0 µg/ml

ME-HgCVAA-Prep0910

Page #:

000000036

INORGANICS

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:32

Analytical Report for Wet Chemistry

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1PTL4	1207034-01	Soil	07/11/2012 07:08	07/16/2012 09:10
J1PTL5	1207034-02	Soil	07/11/2012 07:18	07/16/2012 09:10
J1PTL6	1207034-03	Soil	07/11/2012 07:24	07/16/2012 09:10
J1PTL7	1207034-04	Soil	07/11/2012 07:33	07/16/2012 09:10
J1PTL8	1207034-05	Soil	07/11/2012 07:42	07/16/2012 09:10
J1PTL9	1207034-06	Soil	07/11/2012 07:49	07/16/2012 09:10
J1PTM0	1207034-07	Soil	07/11/2012 07:57	07/16/2012 09:10
J1PTM1	1207034-08	Soil	07/11/2012 08:06	07/16/2012 09:10
J1PTM2	1207034-09	Soil	07/11/2012 08:13	07/16/2012 09:10
J1PTM3	1207034-10	Soil	07/11/2012 08:21	07/16/2012 09:10
J1PTM4	1207034-11	Soil	07/11/2012 08:31	07/16/2012 09:10
J1PTM5	1207034-12	Soil	07/11/2012 08:37	07/16/2012 09:10
J1PTM6	1207034-13	Soil	07/11/2012 08:46	07/16/2012 09:10
J1PTM7	1207034-14	Soil	07/11/2012 07:08	07/16/2012 09:10
J1PTN8	1207034-15	Soil	07/11/2012 09:04	07/16/2012 09:10

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

Case Narrative

Client: WC-HANFORD RC-206 K3950
LVL#: 1207034 **Date Received:** 07-16-12

INORGANIC NARRATIVE

1. This narrative covers the analyses of 15 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 with the exception noted on the Sample Receipt Checklist.

5. The method blank 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. Release of the data contained in this hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory

7/27/12
Date

njp\i07-034

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 14 pages.

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:32

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

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: K3950	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/26/2012 17:32

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier		LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
J1PTL4 (1207034-01) Soil										
%Solids	**99.7**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTL5 (1207034-02) Soil										
%Solids	**98.2**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.51	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTL6 (1207034-03) Soil										
%Solids	**99.2**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTL7 (1207034-04) Soil										
%Solids	**99.1**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTL8 (1207034-05) Soil										
%Solids	**98.1**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.51	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTL9 (1207034-06) Soil										
%Solids	**99.1**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTM0 (1207034-07) Soil										
%Solids	**99.2**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:32

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier		LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
J1PTM1 (1207034-08) Soil										
%Solids	**98.3**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.51	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTM2 (1207034-09) Soil										
%Solids	**99.2**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTM3 (1207034-10) Soil										
%Solids	**99.3**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTM4 (1207034-11) Soil										
%Solids	**99.0**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTM5 (1207034-12) Soil										
%Solids	**99.0**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.51	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTM6 (1207034-13) Soil										
%Solids	**98.8**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.51	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A
J1PTM7 (1207034-14) Soil										
%Solids	**99.7**			0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A

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: K3950	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/26/2012 17:32

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier	LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
J1PTN8 (1207034-15) Soil									
%Solids	**99.3**		0.1	% by Weight	1	L207136	07/23/2012	07/23/2012	SM2540G
Hexavalent Chromium	0.20 U	0.20	0.50	mg/kg dry	1	L207150	07/25/2012	07/25/2012	SW846 7196A

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: K3950 Project Manager: Joan Kessner	**Reported:** 07/26/2012 17:32

Wet Chemistry - Quality Control
Lionville Laboratory

Analyte	Result and Qualifiers		LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L207136 - % Solids											
Duplicate (L207136-DUP2)		**Source: 1207034-01**			Prepared & Analyzed: 07/23/2012						
%Solids	94.3			0.1	% by Weight		99.7			6	20
Batch L207150 - Default Prep GenChem											
Blank (L207150-BLK1)					Prepared & Analyzed: 07/25/2012						
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg wet						
LCS (L207150-BS1)					Prepared & Analyzed: 07/25/2012						
Hexavalent Chromium	4.14		0.20	0.50	mg/kg wet	4.0000		103	80-120		
LCS (L207150-BS2)					Prepared & Analyzed: 07/25/2012						
Hexavalent Chromium	1190	D	20.0	50.0	mg/kg wet	1172.1		101	80-120		
Duplicate (L207150-DUP1)		**Source: 1207034-01**			Prepared & Analyzed: 07/25/2012						
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg dry		0.20 U				20
Matrix Spike (L207150-MS1)		**Source: 1207034-01**			Prepared & Analyzed: 07/25/2012						
Hexavalent Chromium	3.59		0.20	0.50	mg/kg dry	4.0130	0.20 U	89	75-125		
Matrix Spike (L207150-MS2)		**Source: 1207034-01**			Prepared & Analyzed: 07/25/2012						
Hexavalent Chromium	1390	D	20.1	50.2	mg/kg dry	1247.0	0.20 U	112	75-125		