0096369

SAF-RC-195
Soil/Sediment Sampling – Integrated Remedial Investigation/Feasibility Study, 100-BC Boreholes
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

No Distribution Required

RECEIVED
MAY 20 2011
EDMC

COMMENTS:

SDG K2828 SAF-RC-195

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: **C8239 (118-B-8); I-012, I-013, I-015, I-018**

28 April 2011

Joan Kessner
WC-Hanford, Inc.
2620 Fermi Avenue
MSIN H9-03
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 #	1012185
SDG #	K2828 SPEC EXT
SAF #	RC-195
Date Received	12/23/10
# Samples	4
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

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-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/14/2011 15:15

Analytical Report for Wet Chemistry

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B28ND6-1	1012185-01	Soil	12/15/2010 09:00	12/23/2010 11:15
B28ND6-2	1012185-02	Soil	12/15/2010 09:00	12/23/2010 11:15
B28ND6-3	1012185-03	Soil	12/15/2010 09:00	12/23/2010 11:15
B28ND6-4	1012185-04	Soil	12/15/2010 09:00	12/23/2010 11:15
B28ND9-1	1012185-05	Soil	12/15/2010 10:20	12/23/2010 11:15
B28ND9-2	1012185-06	Soil	12/15/2010 10:20	12/23/2010 11:15
B28ND9-3	1012185-07	Soil	12/15/2010 10:20	12/23/2010 11:15
B28ND9-4	1012185-08	Soil	12/15/2010 10:20	12/23/2010 11:15
B28NF5-1	1012185-09	Soil	12/15/2010 14:55	12/23/2010 11:15
B28NF5-2	1012185-10	Soil	12/15/2010 14:55	12/23/2010 11:15
B28NF5-3	1012185-11	Soil	12/15/2010 14:55	12/23/2010 11:15
B28NF5-4	1012185-12	Soil	12/15/2010 14:55	12/23/2010 11:15
B28NH4-1	1012185-13	Soil	12/17/2010 08:35	12/23/2010 11:15
B28NH4-2	1012185-14	Soil	12/17/2010 08:35	12/23/2010 11:15
B28NH4-3	1012185-15	Soil	12/17/2010 08:35	12/23/2010 11:15
B28NH4-4	1012185-16	Soil	12/17/2010 08:35	12/23/2010 11:15
B28ND6-A1	1012185-17	Leachate	12/15/2010 09:00	12/23/2010 11:15
B28ND6-A2	1012185-18	Leachate	12/15/2010 09:00	12/23/2010 11:15
B28ND6-B1	1012185-19	Leachate	12/15/2010 09:00	12/23/2010 11:15
B28ND6-C1	1012185-20	Leachate	12/15/2010 09:00	12/23/2010 11:15
B28ND9-A1	1012185-21	Leachate	12/15/2010 10:20	12/23/2010 11:15
B28ND9-B1	1012185-22	Leachate	12/15/2010 10:20	12/23/2010 11:15
B28ND9-B2	1012185-23	Leachate	12/15/2010 10:20	12/23/2010 11:15
B28ND9-C1	1012185-24	Leachate	12/15/2010 10:20	12/23/2010 11:15
B28NF5-A1	1012185-25	Leachate	12/15/2010 14:55	12/23/2010 11:15
B28NF5-B1	1012185-26	Leachate	12/15/2010 14:55	12/23/2010 11:15
B28NF5-C1	1012185-27	Leachate	12/15/2010 14:55	12/23/2010 11:15
B28NF5-C2	1012185-28	Leachate	12/15/2010 14:55	12/23/2010 11:15
B28NH4-A1	1012185-29	Leachate	12/17/2010 08:35	12/23/2010 11:15

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/14/2011 15:15

Analytical Report for Wet Chemistry

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B28NH4-A2	1012185-30	Leachate	12/17/2010 08:35	12/23/2010 11:15
B28NH4-B1	1012185-31	Leachate	12/17/2010 08:35	12/23/2010 11:15
B28NH4-C1	1012185-32	Leachate	12/17/2010 08:35	12/23/2010 11:15

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Case Narrative

Client: WC-HANFORD RC-195 K2828
LVL#: 1012185

Date Received: 12-23-10

INORGANIC NARRATIVE

1. This narrative covers the analyses of 16 soil and 16 leachate samples.

2. The samples were prepared using the client prescribed leaching procedure 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 for the leachate samples as analyses were performed within 24 hours of the completion of the filtering step of the preparation procedure; however, analysis for total Hexavalent Chromium (Cr^{6+}) was past hold.

4. The method blanks were within the method criteria.

5. The Laboratory Control Samples (LCS) were within the 90-110% and 80-120% control limits.

6. The matrix spike recovery for sample B28NH4-C1 was within the 75-125% control limits.

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

8. 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.

Jain Daniels
Laboratory Manager
Lionville Laboratory

4/25/11
Date

njp\i12-185

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 19 pages.

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/14/2011 15:15

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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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/14/2011 15:15

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier		LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
B28ND6-1 (1012185-01) Soil										
%Solids	**94.9**		0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21	U	0.21	0.53	mg/kg dry	1	L103415	03/28/2011	03/28/2011	SW846 7196A
B28ND6-2 (1012185-02) Soil										
%Solids	**94.9**		0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21	U	0.21	0.53	mg/kg dry	1	L103415	03/28/2011	03/28/2011	SW846 7196A
B28ND6-3 (1012185-03) Soil										
%Solids	**94.9**		0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21	U	0.21	0.53	mg/kg dry	1	L103415	03/28/2011	03/28/2011	SW846 7196A
B28ND6-4 (1012185-04) Soil										
%Solids	**94.9**		0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21	U	0.21	0.53	mg/kg dry	1	L103415	03/28/2011	03/28/2011	SW846 7196A
B28ND9-1 (1012185-05) Soil										
%Solids	**95.3**		0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21	U	0.21	0.52	mg/kg dry	1	L103415	03/28/2011	03/28/2011	SW846 7196A
B28ND9-2 (1012185-06) Soil										
%Solids	**95.3**		0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21	U	0.21	0.52	mg/kg dry	1	L103415	03/28/2011	03/28/2011	SW846 7196A
B28ND9-3 (1012185-07) Soil										
%Solids	**95.3**		0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21	U	0.21	0.52	mg/kg dry	1	L103415	03/28/2011	03/28/2011	SW846 7196A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/14/2011 15:15

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier	LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
B28ND9-4 (1012185-08) Soil									
%Solids	**95.3**	0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.52	mg/kg dry	1	L103415	03/28/2011	03/28/201	SW846 7196A
B28NF5-1 (1012185-09) Soil									
%Solids	**94.2**	0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.53	mg/kg dry	1	L103415	03/28/2011	03/28/201	SW846 7196A
B28NF5-2 (1012185-10) Soil									
%Solids	**94.2**	0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.53	mg/kg dry	1	L103415	03/28/2011	03/28/201	SW846 7196A
B28NF5-3 (1012185-11) Soil									
%Solids	**94.2**	0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.53	mg/kg dry	1	L103415	03/28/2011	03/28/201	SW846 7196A
B28NF5-4 (1012185-12) Soil									
%Solids	**94.2**	0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.53	mg/kg dry	1	L103415	03/28/2011	03/28/201	SW846 7196A
B28NH4-1 (1012185-13) Soil									
%Solids	**92.1**	0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.22 U	0.22	0.54	mg/kg dry	1	L103415	03/28/2011	03/28/201	SW846 7196A
B28NH4-2 (1012185-14) Soil									
%Solids	**92.1**	0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.22 U	0.22	0.54	mg/kg dry	1	L103415	03/28/2011	03/28/201	SW846 7196A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/14/2011 15:15

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier	LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
B28NH4-3 (1012185-15) Soil									
%Solids	**92.1**	0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.22 U	0.22	0.54	mg/kg dry	1	L103415	03/28/2011	03/28/2011	SW846 7196A
B28NH4-4 (1012185-16) Soil									
%Solids	**92.1**	0.1	0.1	% by Weight	1	L012370	12/30/2010	12/30/2010	SM2540G
Hexavalent Chromium	0.22 U	0.22	0.54	mg/kg dry	1	L103415	03/28/2011	03/28/2011	SW846 7196A
B28ND6-A1 (1012185-17) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28ND6-A2 (1012185-18) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28ND6-B1 (1012185-19) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28ND6-C1 (1012185-20) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28ND9-A1 (1012185-21) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28ND9-B1 (1012185-22) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/14/2011 15:15

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier	LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
B28ND9-B2 (1012185-23) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28ND9-C1 (1012185-24) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28NF5-A1 (1012185-25) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28NF5-B1 (1012185-26) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28NF5-C1 (1012185-27) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28NF5-C2 (1012185-28) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28NH4-A1 (1012185-29) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28NH4-A2 (1012185-30) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A
B28NH4-B1 (1012185-31) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A

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Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier	LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
B28NH4-C1 (1012185-32) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L104120	04/08/2011	04/08/2011	SW846 7196A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/14/2011 15:15

Wet Chemistry - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L103415 - Default Prep GenChem										
Blank (L103415-BLK1)				Prepared & Analyzed: 03/28/2011						
Hexavalent Chromium	0.20 U	0.20	0.50	mg/kg wet						
LCS (L103415-BS1)				Prepared & Analyzed: 03/28/2011						
Hexavalent Chromium	3.87	0.20	0.50	mg/kg wet	4.0000		97	80-120		
LCS (L103415-BS2)				Prepared & Analyzed: 03/28/2011						
Hexavalent Chromium	1080 D	20.0	50.0	mg/kg wet	1062.6		101	80-120		
Batch L104120 - Default Prep GenChem										
Blank (L104120-BLK1)				Prepared & Analyzed: 04/08/2011						
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L						
Blank (L104120-BLK2)				Prepared & Analyzed: 04/08/2011						
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L						
LCS (L104120-BS1)				Prepared & Analyzed: 04/08/2011						
Hexavalent Chromium	0.99	0.01	0.02	mg/L	1.0000		99	90-110		
Matrix Spike (L104120-MS1)	**Source: 1012185-32**			Prepared & Analyzed: 04/08/2011						
Hexavalent Chromium	1.10	0.01	0.02	mg/L	1.0000	0.01 U	110	75-125		

Lionville Laboratory Use Only

1012185

Custody Transfer Record/Lab Work Request

Page 1 of 4

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRG

LVLI Lionville Laboratory Inc.

A-1

Client: WC Hanford SAF# RC-195

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: Arlette Johnson

QC: SW Del: STD TAT: 30 days

Date Rec'd: 12-23-10 Date Due: 1-22-10

Refrigerator #						2									
#/Type Container	Liquid														
	Solid					1p1									
Volume	Solid					500									
Preservatives															
ANALYSES REQUESTED		ORGANIC							INORG						
		VOA	BNA	Pest/PCB	Herb	Spec. Extract			Metal	CN					
		Lionville Laboratory Use Only													
						CRG	RCRA Cond								

MATRIX CODES:
S- Soil
SE- Sediment
SO- Solid
SL- Sludge
W- Water
O- Oil
A- Air
DS- Drum Solids
DL- Drum Liquids
L- EP/TCLP Leachate
WI- Wipe
X- Other
F- Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected					CRG	RCRA Cond								
01	B28ND6-1			S	12-15-10	0900					X	X								
02	-2										X	X								
03	-3										X	X								
04	-4										X	X								
05	B28ND9-1					1030					X	X								
06	-2										X	X								
07	-3										X	X								
08	-4										X	X								
09	B28NF5-1					1455					X	X								
10	-2										X	X								

Special Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible signature]	[illegible signature]	12-23-10	1115

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN			

Lionville Laboratory Use Only

1012185

Custody Transfer Record/Lab Work Request

Page 2 of 04

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: WC Hanford SAF# RC-195

Est. Final Proj. Sampling Date:

Project#: See Pg 1

Project Contact/Phone#:

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: 12-23-10 Date Due:

Refrigerator #		A-1														
#/Type Container	Liquid															
	Solid	1pl	4													
Volume	Solid	500	4													
Preservatives		–														
ANALYSES REQUESTED	ORGANIC: VOA	BNA	Pest/PCB	Herb				INORG: Metal	CN							
Lionville Laboratory Use Only					CRG	6010 RCRA				TCLP 6010	TCLP RCRA					

MATRIX CODES:
S- Soil
SE- Sediment
SO- Solid
SL- Sludge
W- Water
O- Oil
A- Air
DS- Drum Solids
DL- Drum Liquids
L- EP/TCLP Leachate
WI- Wipe
X- Other
F- Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	CRG	6010 RCRA	TCLP 6010	TCLP RCRA
11	B28NF5-3			S	12-15-10	1455	X	X		
12	-4						X	X		
13	B28NH4-1				12-17-10	0835	X	X		
14	-2						X	X		
15	-3						X	X		
16	-4						X	X		
17	B28ND6-A1				12-15-10	0900			X	X
18	A2								X	X
19	B1								X	X
20	C1								X	X

Special Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	12-23-10	1115

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Lionville Laboratory Use Only: 1012185

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI Lionville Laboratory Inc.

Client: WC RC-195

Est. Final Proj. Sampling Date:

Project#: See Pg 1

Project Contact/Phone#:

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: 12-23-10 Date Due:

Refrigerator #:

#/Type Container: Liquid / Solid

Volume:

Preservatives:

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN; Lead

MATRIX CODES:
S- Soil
SE- Sediment
SO- Solid
SL- Sludge
W- Water
O- Oil
A- Air
DS- Drum Solids
DL- Drum Liquids
L- EP/TCLP Leachate
WI- Wipe
X- Other
F- Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb				Metal	CN	Lead	TCLP CRC	TCLP VOA/RCRA
21	B28ND9-A1			S	12-15-10	1020											X	X
22	B1																X	X
23	B2																X	X
24	C1																X	X
25	B28NF5-A1					1455											X	X
26	B1																X	X
27	C1																X	X
28	C2																X	X
29	B28NH4-A1				12-17-10	0835											X	X
30	A2																X	X

Lionville Laboratory Use Only

Special Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Lionville Laboratory Use Only

1012185

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI Lionville Laboratory Inc.

Client: WC RC-195

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#: See Pg 1

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: 12-23-10 Date Due:

Refrigerator #:

#/Type Container: Liquid / Solid

Volume:

Preservatives:

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN; Lionville Laboratory Use Only

MATRIX CODES:
- S- Soil
- SE- Sediment
- SO- Solid
- SL- Sludge
- W- Water
- O- Oil
- A- Air
- DS- Drum Solids
- DL- Drum Liquids
- L- EP/TCLP Leachate
- WI- Wipe
- X- Other
- F- Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb				Metal	CN	TCLP CR6	TCLP 60/1RCRA
31	B28NH4-B1			S	12-17-10	0835										X	X
32	↓ C1			↓	↓	↓										X	X

Special Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			RC-195-572	PAGE 1 OF 1
COLLECTOR Turner, Crow	COMPANY CONTACT RADLOFF, ANNA	TELEPHONE NO. (509) 376-4554	PROJECT COORDINATOR KESSNER, JH	PRICE CODE 8N	DATA TURNAROUND
SAMPLING LOCATION C8239 (118-B-8); I-012	PROJECT DESIGNATION Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO. RC-195	AIR QUALITY ☐	45 Days / 45 Days
ICE CHEST NO. GWS-118-1	FIELD LOGBOOK NO. HNF-N-585-15 pg 23	ACTUAL SAMPLE DEPTH 52.2-54.7 ft	COA 302512ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR	7942408 48410	

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: ~~B28N50~~ MVM 11/29/10
B29K49

PRESERVATION	None
HOLDING TIME	180 Days
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Special Extraction - D3987 (100 Area RIFS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28ND6	SOIL	12-15-10	0900	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM A-Turner MZ 12-15-10	DATE/TIME 1110	RECEIVED BY/STORED IN MO 413 SSU R2 12-15-10	DATE/TIME 1110
RELINQUISHED BY/REMOVED FROM SSU-R2	DATE/TIME DEC 20 2010 0810	RECEIVED BY/STORED IN M. A. White	DATE/TIME DEC 20 2010 0810
RELINQUISHED BY/REMOVED FROM M. A. White	DATE/TIME DEC 20 2010 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM FedEx 12.23.10	DATE/TIME 1115	RECEIVED BY/STORED IN DSmith 12.23.10	DATE/TIME 1115
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
** The laboratory is to analyze pH within 24 hours of receipt.☐☐** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met.☐☐** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix.☐☐

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			RC-195-577	PAGE 1 OF 1
COLLECTOR Turner, Crow	COMPANY CONTACT RADLOFF, ANNA	TELEPHONE NO. (509) 376-4554	PROJECT COORDINATOR KESSNER, JH	PRICE CODE 8N	DATA TURNAROUND
SAMPLING LOCATION C8239 (118-B-8); I-013	PROJECT DESIGNATION Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO. RC-195	AIR QUALITY ☐	45 Days / 45 Days
ICE CHEST NO. CoWS-118-1	FIELD LOGBOOK NO. HNF-N-585-15 pg 28	ACTUAL SAMPLE DEPTH 55.8 - 58.3 ft	COA 302512ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR	7942408 48410	

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B28N51

PRESERVATION	None
HOLDING TIME	180 Days
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Special Extraction - D3987 (100 Area RIFS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28ND9	SOIL	12-15-10	1020	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM A. Turner	DATE/TIME 12-15-10 1110	RECEIVED BY/STORED IN MO 413 SSU R2	DATE/TIME 12-15-10 1110
RELINQUISHED BY/REMOVED FROM SSU-R2	DATE/TIME DEC 20 2010 0810	RECEIVED BY/STORED IN M.A. White	DATE/TIME DEC 20 2010 0810
RELINQUISHED BY/REMOVED FROM M.A. White	DATE/TIME DEC 20 2010 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 12.23.10 1115	RECEIVED BY/STORED IN Dominic Smith	DATE/TIME 12.23.10 1115
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
** The laboratory is to analyze pH within 24 hours of receipt.☐☐** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met.☐☐** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix.☐☐

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			RC-195-586	PAGE 1 OF 1
COLLECTOR Turner-Crow	COMPANY CONTACT RADLOFF, ANNA	TELEPHONE NO. (509) 376-4554	PROJECT COORDINATOR KESSNER, JH	PRICE CODE 8N	DATA TURNAROUND
SAMPLING LOCATION C8239 (118-B-8); I-015	PROJECT DESIGNATION Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO. RC-195	AIR QUALITY ☐	45 Days / 45 Days
ICE CHEST NO. GWS - 118-1	FIELD LOGBOOK NO. HNF-N-585-15 pg28	ACTUAL SAMPLE DEPTH 62.3-64.8 ft	COA 302512ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR	7942408 48410	

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B28N52

PRESERVATION	None
HOLDING TIME	180 Days
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Special Extraction - D3987 (100 Area RIFS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28NF5	SOIL	12-15-10	1455	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM A. Turner	DATE/TIME 12-15-10 1540	RECEIVED BY/STORED IN M0413 SSU R2	DATE/TIME 12-15-10 1540
RELINQUISHED BY/REMOVED FROM SSU-R2	DATE/TIME DEC 20 2010 0810	RECEIVED BY/STORED IN M.A. White	DATE/TIME DEC 20 2010 0810
RELINQUISHED BY/REMOVED FROM M.A. White	DATE/TIME DEC 20 2010 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME 12.23.10 1115	RECEIVED BY/STORED IN	DATE/TIME 12.23.10 1115
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
** The laboratory is to analyze pH within 24 hours of receipt.☐☐** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met.☐☐** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix.☐☐

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			RC-195-599	PAGE 1 OF 1
COLLECTOR Turner, Crow	COMPANY CONTACT RADLOFF, ANNA	TELEPHONE NO. (509) 376-4554	PROJECT COORDINATOR KESSNER, JH	PRICE CODE 8N	DATA TURNAROUND
SAMPLING LOCATION C8239 (118-B-8); I-018	PROJECT DESIGNATION Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO. RC-195	AIR QUALITY ☐	45 Days / 45 Days
ICE CHEST NO. CRP-03-014	FIELD LOGBOOK NO. HNF-N-585-15 pg 31	ACTUAL SAMPLE DEPTH 69.8-72.3 ft	COA 302512ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR	7942408 49050	

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B28N53

PRESERVATION	None
HOLDING TIME	180 Days
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Special Extraction - D3987 (100 Area RIFS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28NH4	SOIL	12-17-10	0835	X

CHAIN OF POSSESSION	SIGN/ PRINT NAMES
RELINQUISHED BY/REMOVED FROM: A. Turner, 12-17-10, DATE/TIME 1430	RECEIVED BY/STORED IN: MO 413 SSG RR 12-17-10 1430
RELINQUISHED BY/REMOVED FROM: SSG RR, DATE/TIME DEC 20 2010 0905	RECEIVED BY/STORED IN: M. A. White, DEC 20 2010 0905
RELINQUISHED BY/REMOVED FROM: M. A. White, DEC 20 2010 1400	RECEIVED BY/STORED IN: FEDEX
RELINQUISHED BY/REMOVED FROM: Fed Ex 12-23-10 1115	RECEIVED BY/STORED IN: 12-23-10 1115
RELINQUISHED BY/REMOVED FROM: DATE/TIME	RECEIVED BY/STORED IN: DATE/TIME
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
** The laboratory is to analyze pH within 24 hours of receipt.☐☐** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met.☐☐** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix.☐☐

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618 (REV 2)

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC Hanford

Project/SAF/SOW/Release #: RC-195

Date: 12-23-10

LvL Batch #: 1012185

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7942 4084 8410 9050
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: * ~~GWS-118-1~~ Missing handle
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 3.3 °C		Cooler # * GWS-118-1
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify) #GRP-03-014
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact. signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvL) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no. then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA. TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A
15. Shipment meets LvL Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____

LIONVILLE LABORATORY

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-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B28ND6-1	1012185-01	Soil	12/15/2010 09:00	12/23/2010 11:15
B28ND6-2	1012185-02	Soil	12/15/2010 09:00	12/23/2010 11:15
B28ND6-3	1012185-03	Soil	12/15/2010 09:00	12/23/2010 11:15
B28ND6-4	1012185-04	Soil	12/15/2010 09:00	12/23/2010 11:15
B28ND9-1	1012185-05	Soil	12/15/2010 10:20	12/23/2010 11:15
B28ND9-2	1012185-06	Soil	12/15/2010 10:20	12/23/2010 11:15
B28ND9-3	1012185-07	Soil	12/15/2010 10:20	12/23/2010 11:15
B28ND9-4	1012185-08	Soil	12/15/2010 10:20	12/23/2010 11:15
B28NF5-1	1012185-09	Soil	12/15/2010 14:55	12/23/2010 11:15
B28NF5-2	1012185-10	Soil	12/15/2010 14:55	12/23/2010 11:15
B28NF5-3	1012185-11	Soil	12/15/2010 14:55	12/23/2010 11:15
B28NF5-4	1012185-12	Soil	12/15/2010 14:55	12/23/2010 11:15
B28NH4-1	1012185-13	Soil	12/17/2010 08:35	12/23/2010 11:15
B28NH4-2	1012185-14	Soil	12/17/2010 08:35	12/23/2010 11:15
B28NH4-3	1012185-15	Soil	12/17/2010 08:35	12/23/2010 11:15
B28NH4-4	1012185-16	Soil	12/17/2010 08:35	12/23/2010 11:15
B28ND6-A1	1012185-17	Leachate	12/15/2010 09:00	12/23/2010 11:15
B28ND6-A2	1012185-18	Leachate	12/15/2010 09:00	12/23/2010 11:15
B28ND6-B1	1012185-19	Leachate	12/15/2010 09:00	12/23/2010 11:15
B28ND6-C1	1012185-20	Leachate	12/15/2010 09:00	12/23/2010 11:15
B28ND9-A1	1012185-21	Leachate	12/15/2010 10:20	12/23/2010 11:15
B28ND9-B1	1012185-22	Leachate	12/15/2010 10:20	12/23/2010 11:15
B28ND9-B2	1012185-23	Leachate	12/15/2010 10:20	12/23/2010 11:15
B28ND9-C1	1012185-24	Leachate	12/15/2010 10:20	12/23/2010 11:15
B28NF5-A1	1012185-25	Leachate	12/15/2010 14:55	12/23/2010 11:15
B28NF5-B1	1012185-26	Leachate	12/15/2010 14:55	12/23/2010 11:15
B28NF5-C1	1012185-27	Leachate	12/15/2010 14:55	12/23/2010 11:15
B28NF5-C2	1012185-28	Leachate	12/15/2010 14:55	12/23/2010 11:15
B28NH4-A1	1012185-29	Leachate	12/17/2010 08:35	12/23/2010 11:15
B28NH4-A2	1012185-30	Leachate	12/17/2010 08:35	12/23/2010 11:15
B28NH4-B1	1012185-31	Leachate	12/17/2010 08:35	12/23/2010 11:15

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-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

Analytical Report for TCLP Metals by SW846 1311 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B28NH4-C1	1012185-32	Leachate	12/17/2010 08:35	12/23/2010 11:15

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-195
LVL#: 1012185
SDG/SAF#: K2828/RC-195

W.O.#: 60049-001-001-0001-00
Date Received: 12-23-10

METALS

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

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

1. This narrative covers the analyses of 4 soil samples analyzed in quadruplicate 16 TCLP leachate samples.

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

   The TCLP leachate samples B28ND6-A1, B28ND6-A2, B28ND9-A1, B28NF5-A1, B28NH4-A1, and B28NH4-A2 were prepared with 5-fold dilutions due to insufficient sample volume.

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.

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 (3-10X the LOD), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}.

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

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 56 pages.

9. All Standard Reference Material (SRM) analytes were within the Prediction Interval control limits supplied by the manufacturer. All laboratory control samples (LCS) were within the 80-120% control limits.

10. The matrix spike (MS) recovery for 1 analyte was 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 following analytes:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
B26ND6-1	Cadmium	100	107.0

12. The TCLP extract from sample B28ND6-B1 was selected for the matrix spike (MS) for this analytical batch.

    The MS recoveries for all analytes in the TCLP extract were above 50%. The TCLP matrix spike was analyzed and reported with a 5-fold dilution for all TCLP leachate analytes due to the high concentration of Barium in the sample.

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

4/20/11
Date

alm/12-185specext

264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

Notes and Definitions

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

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND6-1

1012185-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**2.65**	B	2.87	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**43.4**		0.479	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.287	U	0.287	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**2.75**		0.287	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**2.75**	B	2.87	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	4.79	U	4.79	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.479	U	0.479	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

264 Welsh Pool Road
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Phone: 610-280-3000
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND6-2

1012185-02 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**2.80**		2.77	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**48.9**		0.462	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.277	U	0.277	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**5.03**		0.277	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**3.58**		2.77	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	4.62	U	4.62	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.462	U	0.462	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

264 Welsh Pool Road
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Phone: 610-280-3000
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND6-3
1012185-03 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**3.24**		2.55	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**61.3**		0.425	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.255	U	0.255	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**4.49**		0.255	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**3.08**		2.55	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	4.25	U	4.25	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.425	U	0.425	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

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-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND6-4

1012185-04 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**2.44**	B	2.82	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**35.4**		0.470	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.282	U	0.282	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**3.66**		0.282	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**3.79**		2.82	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	4.70	U	4.70	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.470	U	0.470	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

264 Welsh Pool Road
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Phone: 610-280-3000
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND9-1
1012185-05 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**4.43**		2.54	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**57.3**		0.423	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.254	U	0.254	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**6.54**		0.254	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**3.03**		2.54	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	4.23	U	4.23	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.423	U	0.423	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

264 Welsh Pool Road
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Phone: 610-280-3000
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND9-2

1012185-06 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**2.73**		2.35	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**54.6**		0.392	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.235	U	0.235	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**3.79**		0.235	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**2.52**		2.35	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	3.92	U	3.92	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.392	U	0.392	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND9-3

1012185-07 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**2.98**		2.54	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**222**		0.423	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.254	U	0.254	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**5.74**		0.254	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**2.76**		2.54	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	4.23	U	4.23	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.423	U	0.423	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND9-4

1012185-08 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**3.27**		2.62	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**48.4**		0.437	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.262	U	0.262	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**4.73**		0.262	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**2.48**	B	2.62	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	4.37	U	4.37	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.437	U	0.437	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

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

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NF5-1

1012185-09 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**3.31**		2.84	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**67.5**		0.474	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.284	U	0.284	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**12.6**		0.284	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**3.52**		2.84	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	4.74	U	4.74	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.474	U	0.474	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

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

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NF5-2
1012185-10 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	**2.75**		2.31	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**61.9**		0.385	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.231	U	0.231	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**10.9**		0.231	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**2.91**		2.31	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	3.85	U	3.85	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.385	U	0.385	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

264 Welsh Pool Road
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NF5-3

1012185-11 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**3.44**		2.95	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**85.8**		0.492	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.295	U	0.295	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**11.0**		0.295	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**4.12**		2.95	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	4.92	U	4.92	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.492	U	0.492	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

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-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NF5-4

1012185-12 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**2.88**		2.65	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**88.2**		0.442	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.265	U	0.265	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**15.0**		0.265	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**3.72**		2.65	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	4.42	U	4.42	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.442	U	0.442	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

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-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NH4-1

1012185-13 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**2.40**	B	3.02	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**60.3**		0.503	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.302	U	0.302	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**15.3**		0.302	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**17.9**		3.02	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	5.03	U	5.03	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.503	U	0.503	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

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-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NH4-2

1012185-14 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**3.35**		2.72	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**82.9**		0.453	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.272	U	0.272	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**17.0**		0.272	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**4.45**		2.72	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	4.53	U	4.53	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.453	U	0.453	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

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-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NH4-3

1012185-15 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**3.30**		3.02	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**74.6**		0.503	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.302	U	0.302	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**17.6**		0.302	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**4.90**		3.02	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	5.03	U	5.03	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.503	U	0.503	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

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-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NH4-4

1012185-16 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**3.23**		3.02	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Barium	**66.6**		0.503	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Cadmium	0.302	U	0.302	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Chromium	**15.0**		0.302	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Lead	**4.16**		3.02	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Selenium	5.03	U	5.03	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B
Silver	0.503	U	0.503	mg/kg dry	1	L104103	04/07/2011	04/21/2011	6010B

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-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND6-A1

1012185-17 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	0.0250	U	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.250	U	0.250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.0250	U	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND6-A2

1012185-18 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	0.0250	U	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.250	U	0.250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.0250	U	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND6-B1

1012185-19 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	**0.00484**	B	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND6-C1

1012185-20 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	**0.00645**		0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND9-A1

1012185-21 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	0.0250	U	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.250	U	0.250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.0250	U	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND9-B1

1012185-22 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	**0.00290**	B	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND9-B2

1012185-23 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	**0.00380**	B	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28ND9-C1

1012185-24 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	0.00500	U	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NF5-A1

1012185-25 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	0.0250	U	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.250	U	0.250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.0250	U	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NF5-B1

1012185-26 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	**0.00787**		0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NF5-C1

1012185-27 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	**0.00520**		0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NF5-C2

1012185-28 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	**0.00606**		0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NH4-A1

1012185-29 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	**0.0111**	B	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.250	U	0.250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.0250	U	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NH4-A2

1012185-30 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	0.0250	U	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.0150	U	0.0150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.150	U	0.150	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.250	U	0.250	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.0250	U	0.0250	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NH4-B1

1012185-31 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	**0.00559**		0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

B28NH4-C1

1012185-32 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Barium	**0.00423**	B	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Cadmium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L104188	04/13/2011	04/22/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L104188	04/13/2011	04/22/2011	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

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 L104103 - SW 3050B										
Blank (L104103-BLK1)				Prepared: 04/07/2011 Analyzed: 04/21/2011						
Arsenic	2.50	U	2.50	mg/kg wet						
Barium	0.417	U	0.417	mg/kg wet						
Cadmium	0.250	U	0.250	mg/kg wet						
Chromium	0.104	B	0.250	mg/kg wet						
Lead	2.50	U	2.50	mg/kg wet						
Selenium	4.17	U	4.17	mg/kg wet						
Silver	0.417	U	0.417	mg/kg wet						
Matrix Spike (L104103-MS1)		**Source: 1012185-01**		Prepared: 04/07/2011 Analyzed: 04/21/2011						
Arsenic	161		2.93	mg/kg dry	195.17	2.65	81	75-125		20
Barium	228		0.488	mg/kg dry	195.17	43.4	95	75-125		20
Cadmium	3.20		0.293	mg/kg dry	4.8792	0.287 U	66*	75-125		20
Chromium	21.6		0.293	mg/kg dry	19.517	2.75	96	75-125		20
Lead	42.2		2.93	mg/kg dry	48.792	2.75	81	75-125		20
Selenium	148		4.88	mg/kg dry	195.17	4.79 U	76	75-125		20
Silver	4.00		0.488	mg/kg dry	4.8792	0.479 U	82	75-125		20
Reference (L104103-SRM1)				Prepared: 04/07/2011 Analyzed: 04/21/2011						
Arsenic	117		8.18	mg/kg wet	113.85		103	85-115		
Barium	319		1.36	mg/kg wet	298.35		107	75.7-124.3		
Cadmium	242		0.818	mg/kg wet	224.09		108	84.9-115.1		
Chromium	83.3		0.818	mg/kg wet	77.590		107	76.8-123.2		
Lead	194		8.18	mg/kg wet	187.62		104	81.5-118.5		
Selenium	190		13.6	mg/kg wet	187.99		101	78.8-121.2		
Silver	85.0		1.36	mg/kg wet	83.960		101	81.9-118.1		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2828 Project Manager: Joan Kessner	**Reported:** 04/25/2011 16:17

TCLP Metals by SW846 1311 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 L104188 - SW 3010A										
Blank (L104188-BLK1)				Prepared: 04/13/2011 Analyzed: 04/22/2011						
Arsenic	0.0300	U	0.0300	mg/L						
Barium	0.00500	U	0.00500	mg/L						
Cadmium	0.00300	U	0.00300	mg/L						
Chromium	0.00300	U	0.00300	mg/L						
Lead	0.0300	U	0.0300	mg/L						
Selenium	0.0500	U	0.0500	mg/L						
Silver	0.00500	U	0.00500	mg/L						
Blank (L104188-BLK2)				Prepared: 04/13/2011 Analyzed: 04/22/2011						
Arsenic	0.0300	U	0.0300	mg/L						
Barium	0.00500	U	0.00500	mg/L						
Cadmium	0.00300	U	0.00300	mg/L						
Chromium	0.00300	U	0.00300	mg/L						
Lead	0.0300	U	0.0300	mg/L						
Selenium	0.0500	U	0.0500	mg/L						
Silver	0.00500	U	0.00500	mg/L						
LCS (L104188-BS1)				Prepared: 04/13/2011 Analyzed: 04/22/2011						
Arsenic	9.83		0.0300	mg/L	10.000		98.3	80-120		20
Barium	4.97		0.00500	mg/L	5.0000		99.4	80-120		20
Cadmium	0.258		0.00300	mg/L	0.25000		103	80-120		20
Chromium	0.507		0.00300	mg/L	0.50000		101	80-120		20
Lead	2.47		0.0300	mg/L	2.5000		98.8	80-120		20
Selenium	9.57		0.0500	mg/L	10.000		95.7	80-120		20
Silver	0.494		0.00500	mg/L	0.50000		98.8	80-120		20
Matrix Spike (L104188-MS1)		Source: 1012185-19		Prepared: 04/13/2011 Analyzed: 04/22/2011						
Arsenic	4.93		0.150	mg/L	5.0000	0.0300 U	98.7	50-1000		20
Barium	98.4		0.0250	mg/L	100.00	0.00484	98.3	50-1000		20
Cadmium	1.01		0.0150	mg/L	1.0000	0.00300 U	101	50-1000		20
Chromium	5.03		0.0150	mg/L	5.0000	0.00300 U	101	50-1000		20
Lead	5.14		0.150	mg/L	5.0000	0.0300 U	103	50-1000		20
Selenium	0.978		0.250	mg/L	1.0000	0.0500 U	97.8	50-1000		20
Silver	2.71		0.0250	mg/L	5.0000	0.00500 U	54.2	50-1000		20

Lionville Laboratory

Logbook #: 949

SAMPLE DIGESTION RECORD

Digestion Batch #: 4104103
Date/Time Initiated: 4/7/11 22:00
Date/Time Completed: 4/7/11 23:45
Analyst: BLK
Matrix (circle): ~~Soil~~ Water Other
Method (circle one): 3005A 3010A (3050) 200.7 (1994)

(Digested) / Undigested (circle one)
Balance #: B-14
Balance Cal Verification: (✓) NA
Temp: 96
BLOCK 1 (2) (circle one)

NOTE: All temperatures are recorded as corrected temperatures

Work Order #	Spike Vol (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/Sol/TC	Texture	Color / Appearance	Artifact	Turb
1012185-1		0.55	50		TO	Course	Black	Rocks	
* -1-MS1	0.5	0.54	50						
-2		0.57	50						
-3		0.62	50						
-4		0.56	50						
-5		0.62	50			Fine	Black	Rocks	
-6		0.67	50						
-7		0.62	50						
-8		0.60	50						
-9		0.56	50			Fine	Black	Rocks	
-10		0.69	50						
-11		0.54	50						
-12		0.60	50						
-13		0.54	50			Fine	Black	Rocks	
-14		0.60	50						
-15		0.54	50						
-16		0.54	50						
B 4/11 ~~4/11 D 12~~ 1012174-1		0.65	50			Fine	Black		
IE -2		0.52	50						
-3		0.53	50						
-4		0.65	50						
-BLK1		0.60	50						
* -SRM1		0.55	50						
			BLK 4/7/11						

Spiking IDs / Expiration Date:
MS#: 1001843

* LCS#: 1001320

Reagent IDs:
HNO_3 J52 033
HCl K12 046
H_2O_2 J52 A01
1:1 HNO_3 637-041-05
1:1 HCl

File ID#:

Data Review By / Date: QPM 4/8/11

* 6072-082-09 250 ml

Page #:

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Lionville Laboratory **Logbook #:** 957

SAMPLE DIGESTION RECORD

Digestion Batch #: L104188
Date/Time Initiated: 4/13/11 1540
Date/Time Completed: 4/19/11 1300
Analyst: JS
Matrix (circle): Soil Water Other
Method (circle one): 3005A 3010A 3050 200.7 (1994)

Digested / Undigested (circle one)
Balance #: N/A
Balance Cal Verification: Y NA
Temp: 97
BLOCK 1 2 (circle one)

NOTE: All temperatures are recorded as corrected temperatures

Work Order #	Spike Vol (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/Sol/ TC	Texture	Color / Appearance	Artifact	Turb
1012185-17		10	50		TC	N/A	C/C	N/A	N/A
18		10	50				C/C		
19		50	50				C/C		
L104188 - MS1	0.5	50	50						
1012185 - 20		50	50				C/C		
21		10	50				C/C		
22		50	50				C/C		
23		50	50				C/C		
24		50	50				C/C		
25		10	50				C/C		
26		50	50				C/C		
27		50	50				C/C		
28		50	50				C/C		
29		10	50				C/C		
30		10	50				C/C		
31		50	50				C/C		
32		50	50				C/C		
1012193-05		10	50				C/C		
06		50	50				C/C		
07		50	50				C/C		
08		50	50				C/C		
L104188 - BLK1		50	50				C/C		
- MS1	0.5	50	50				C/C		
+ - BLK2		50	50				C/C		
								JJD	4/19/11

Spiking IDs / Expiration Date:
MS#: 1100227
1100228
LCS#: 1100240

Reagent IDs:
HNO_3 K0904 1
HCl
H_2O_2
1:1 HNO_3
1:1 HCl 637-041-09

File ID#:

Data Review By / Date: 4/14/11

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Signed\SPI\Metals Digestion log.doc

+: Associated with L104087.

Page #:

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 956

Start Date: 4-7-11 Start Time: ~~#06~~ 12:00 Analyst:: RH SOP: SPI-1311.1	End Date: 4-~~18~~-11 End Time: 6:00 Analyst: RH Method: 1311.1	Tumbler Speed: 3 RPM Leachate Batch #: L104087 Leachate Page: 1 of 6 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: L104~~090~~087 RH Client ID#: pH After 5 Min: N/A pH After Acid/Heat: Extraction Fluid/pH: Sample Wt.(g): Extract Fluid Vol.(mL): 500 pH After Extraction: N/A	Initial Filtration Data and Comments: Solids: ____% / NA Blank Initial Filtrate Added:
LvL #: 1012185-17 Client ID#: B28ND6-A1 pH After 5 Min: 7.39 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 7.67	Initial Filtration Data and Comments: Solids: ____% / NA 017 Initial Filtrate Added:
LvL # 4/7/11 1012185-18 Client ID#: B28ND6-A2 pH After 5 Min: 7.39 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 7.69	Initial Filtration Data and Comments: Solids: ____% / NA 018 Initial Filtrate Added:
LvL #: 4/7/11 1012185-19 Client ID#: B28ND6-B1 pH After 5 Min: 7.39 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 7.77	Initial Filtration Data and Comments: Solids: ____% / NA 019 Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date [illegible] 4/27/11

SPI-1311.1-A-0310

Page #

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 956

Start Date: 4-7-11 Start Time: 12:00 Analyst: RH SOP: SPI-1311.1	End Date: 4-8-11 End Time: 6:00 Analyst: RH Method: 1311.1	Tumbler Speed: RPM Leachate Batch #: L104087 Leachate Page: 2 of 6 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: 1012185 - 20 Client ID#: B28ND6-C1 pH After 5 Min: 7.39 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: 8.35	Initial Filtration Data and Comments: Solids: ____% / NA 20 Initial Filtrate Added:
LvL #: 1012185-021 Client ID#: B28ND9-A1 pH After 5 Min: 7.34 pH After Acid/Heat: — NA — Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 7.75	Initial Filtration Data and Comments: Solids: ____% / NA 021 Initial Filtrate Added:
LvL # 1012185-022 Client ID#: B28ND9-B1 pH After 5 Min: 7.34 pH After Acid/Heat: — NA — Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 7.78	Initial Filtration Data and Comments: Solids: ____% / NA 022 Initial Filtrate Added:
LvL #: 1012185-023 Client ID#: B28ND9-B2 pH After 5 Min: 7.34 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 7.70	Initial Filtration Data and Comments: Solids: ____% / NA 023 Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date [signature] 4/27/11

SPI-1311.1-A-0310

Page #

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 956

Start Date: 4-7-11 Start Time: 12:00 Analyst: RH SOP: SPI-1311.1	End Date: 4-8-11 End Time: 6:00 Analyst: RH Method: 1311.1	Tumbler Speed: RPM Leachate Batch #: L104087 Leachate Page: 3 of 6 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: 1012185-24 Client ID#: B28ND9-C1 pH After 5 Min: 7.34 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: 7.82	Initial Filtration Data and Comments: Solids: ____% / NA 024 Initial Filtrate Added:
LvL #: 1012185-025 Client ID#: B28NF5-A1 pH After 5 Min: 7.25 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 7.68	Initial Filtration Data and Comments: Solids: ____% / NA 025 Initial Filtrate Added:
LvL # 1012185-026 Client ID#: B28NF5-B1 pH After 5 Min: 7.25 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 7.78	Initial Filtration Data and Comments: Solids: ____% / NA 026 Initial Filtrate Added:
LvL #: 1012185-027 Client ID#: B28NF5-C1 pH After 5 Min: 7.25 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: 8.34	Initial Filtration Data and Comments: Solids: ____% / NA 027 Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date [signature] 4/27/11

SPI-1311.1-A-0310

Page #

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 956

Start Date: 4-7-11 Start Time: 12:00 Analyst:: RH SOP: SPI-1311.1	End Date: 4-8-11 End Time: 6:00 Analyst: RH Method: 1311.1	Tumbler Speed: ____ RPM Leachate Batch #: L10:4087 Leachate Page: 4 of 6 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: 1012185-028 Client ID#: B28NF5-C2 pH After 5 Min: 7.23 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: 8.54	Initial Filtration Data and Comments: Solids: ____% / NA 028 Initial Filtrate Added: ____
LvL #: 1012185-029 Client ID#: B28NH4-A1 pH After 5 Min: 7.38 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 7.83	Initial Filtration Data and Comments: Solids: ____% / NA 029 Initial Filtrate Added: ____
LvL # 1012185 030 Client ID#: B28NH4-A2 pH After 5 Min: 7.38 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 7.84	Initial Filtration Data and Comments: Solids: ____% / NA 030 Initial Filtrate Added: ____
LvL #: 1012185-031 Client ID#: B28NH4-B1 pH After 5 Min: 7.38 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 7.87	Initial Filtration Data and Comments: Solids: ____% / NA 031 Initial Filtrate Added: ____

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date [signature] 4/27/11

SPI-1311.1-A-0310

Page #

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 956

Start Date: 4-7-11 Start Time: 12:00 Analyst:: RH SOP: SPI-1311.1	End Date: 4-8-11 End Time: 6:00 Analyst: RH Method: 1311-1	Tumbler Speed: ___ RPM Leachate Batch #: L104087 Leachate Page: 5 of 6 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: 1012195-032 Client ID#: B28NH4-C1 pH After 5 Min: 7.38 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: 8.04	Initial Filtration Data and Comments: Solids: ____% / NA 032 Initial Filtrate Added:
LvL #: 1012193-005 Client ID#: B29827-A1 pH After 5 Min: 9.09 pH After Acid/Heat: NA Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 7.89	Initial Filtration Data and Comments: Solids: ____% / NA 005 Initial Filtrate Added:
LvL # 1012193-006 Client ID#: B29827-A2 pH After 5 Min: 9.09 pH After Acid/Heat: NA Extraction Fluid/pH: 5.04 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 8.26	Initial Filtration Data and Comments: Solids: ____% / NA 006 Initial Filtrate Added:
LvL #: 1012193-007 Client ID#: B29827-B1 pH After 5 Min: 9.09 pH After Acid/Heat: NA Extraction Fluid/pH: 5.04 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.34	Initial Filtration Data and Comments: Solids: ____% / NA 007 Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

aem 4/27/11

Reviewed By/Date aem 4/27/11

SPI-1311.1-A-0310

Page #

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 956

Start Date: 4-7-11 Start Time: 12:00 Analyst: RH SOP: SPI-1311.1	End Date: 4-8-11 End Time: 6:00 Analyst: RH Method: 1311.1	Tumbler Speed: ____ RPM Leachate Batch #: L104087 Leachate Page: 6 of 6 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: 1612193-008 Client ID#: B29827-C1 pH After 5 Min: 9.09 pH After Acid/Heat: — NA — Extraction Fluid/pH: 5.25 Sample Wt.(g): ~~25~~ 50 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.28	Initial Filtration Data and Comments: Solids: ____% / NA 008 Initial Filtrate Added:
LvL #: Client ID#: pH After 5 Min: pH After Acid/Heat: Extraction Fluid/pH: Sample Wt.(g): Extract Fluid Vol.(mL): pH After Extraction:	Initial Filtration Data and Comments: Solids: ____% / NA Initial Filtrate Added:
LvL # Client ID#: pH After 5 Min: pH After Acid/Heat: Extraction Fluid/pH: Sample Wt.(g): Extract Fluid Vol.(mL): pH After Extraction:	Initial Filtration Data and Comments: Solids: ____% / NA Initial Filtrate Added:
LvL #: Client ID#: pH After 5 Min: pH After Acid/Heat: Extraction Fluid/pH: Sample Wt.(g): Extract Fluid Vol.(mL): pH After Extraction:	Initial Filtration Data and Comments: Solids: ____% / NA RH Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date RM 4/27/11

SPI-1311.1-A-0310

Page #

Lionville Laboratory Use Only

1012185

Custody Transfer Record/Lab Work Request

Page 1 of 4

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

LIONVILLE LABORATORY INC.

Client: WC Hanford SAF# RC-195

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: Arlette Johnson

QC: SW Del: STD TAT: 30 days

Date Rec'd: 12-23-10 Date Due: 1-22-11

Refrigerator #							A-1									
#/Type Container	Liquid						2									
	Solid						1pl									
Volume	Solid						500									
Preservatives							—									
ANALYSES REQUESTED →		ORGANIC								INORG						
		VOA	BNA	Pest/PCB	Herb		Pure Extract			Metal	CN					
		Lionville Laboratory Use Only														
							CRQ	REPT GMD								

MATRIX CODES:
S- Soil
SE- Sediment
SO- Solid
SL- Sludge
W- Water
O- Oil
A- Air
DS- Drum Solids
DL- Drum Liquids
L- EP/TCLP Leachate
WI- Wipe
X- Other
F- Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected															
01	B28ND6-1			S	12-15-10	0900					X	X									
02	-2										X	X									
03	-3										X	X									
04	-4										X	X									
05	B28ND9-1					1030					X	X									
06	-2										X	X									
07	-3										X	X									
08	-4										X	X									
09	B28NF5-1					1455					X	X									
10	-2										X	X									

Special Instructions:

Special Instructions:

1.
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4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	12-23-10	1115

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN			

Lionville Laboratory Use Only: 1012185

Custody Transfer Record/Lab Work Request

Page 2 of 24

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: WC Hanford SAF# RC-195

Est. Final Proj. Sampling Date:

Project#: See Pg 1

Project Contact/Phone#:

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: 12-23-10 Date Due:

Refrigerator #						A-4										
#/Type Container	Liquid					2										
	Solid					1pl	4									
Volume	Solid					500	4									
Preservatives						–										
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal	CN	Weights					
		Lionville Laboratory Use Only														

MATRIX CODES:
S- Soil
SE- Sediment
SO- Solid
SL- Sludge
W- Water
O- Oil
A- Air
DS- Drum Solids
DL- Drum Liquids
L- EP/TCLP Leachate
WI- Wipe
X- Other
F- Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected					CR6	6010 RCRA				TCLP 6010	TCLP RCRA				
11	B28NF5-3			S	12-15-10	1455					X	X									
12	1 -4				↓	↓					X	X									
13	B28NH4-1				12-17-10	0835					X	X									
14	-2										X	X									
15	-3										X	X									
16	-4										X	X									
17	B28ND6-A1				12-15-10	0900										X	X				
18	A2															X	X				
19	B1															X	X				
20	C1															X	X				

Special Instructions:

Special Instructions:

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Relinquished by	Received by	Date	Time
[illegible]	[illegible]	12-23-10	1115

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Lionville Laboratory Use Only

1012185

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI LIONVILLE LABORATORY INC.

Client: WC RC-195

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#: See Pg 1

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: 12-23-10 Date Due:

Refrigerator #																
#/Type Container	Liquid / Solid															
Volume																
Preservatives																
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal	CN						
		Lionville Laboratory Use Only														
											TCLP CR6	TCLP MN RCRA				

MATRIX CODES:
- S- Soil
- SE- Sediment
- SO- Solid
- SL- Sludge
- W- Water
- O- Oil
- A- Air
- DS- Drum Solids
- DL- Drum Liquids
- L- EP/TCLP Leachate
- WI- Wipe
- X- Other
- F- Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	TCLP CR6	TCLP MN RCRA
21	B28ND9-A1			S	12-15-10	1020	X	X
22	B1						X	X
23	B2						X	X
24	C1						X	X
25	B28NE5-A1					1455	X	X
26	B1						X	X
27	C1						X	X
28	C2						X	X
29	B28NH4-A1				12-17-10	0835	X	X
30	A2						X	X

Special Instructions:

Special Instructions:

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Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Lionville Laboratory Use Only

1012185

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI LIONVILLE LABORATORY INC.

Client: WC RC-195

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#: See Pg 1

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: 12-23-10 Date Due:

Refrigerator #:

#/Type Container: Liquid / Solid

Volume:

Preservatives:

ANALYSES REQUESTED →

ORGANIC: VOA, BNA, Pest/PCB, Herb

INORG: Metal, CN

Lionville Laboratory Use Only

MATRIX CODES:
S- Soil
SE- Sediment
SO- Solid
SL- Sludge
W- Water
O- Oil
A- Air
DS- Drum Solids
DL- Drum Liquids
L- EP/TCLP Leachate
WI- Wipe
X- Other
F- Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Herb	Metal	CN	TCLP CRG	TCLP [illegible]
31	B28NH4-B1			S	12-14-10	0835				X	X
32	↓ C1			↓	↓	↓				X	X

Special Instructions:

Special Instructions:

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Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			RC-195-572	PAGE 1 OF 1
COLLECTOR Turner, Crow	COMPANY CONTACT RADLOFF, ANNA	TELEPHONE NO. (509) 376-4554	PROJECT COORDINATOR KESSNER, JH	PRICE CODE 8N	DATA TURNAROUND
SAMPLING LOCATION C8239 (118-B-8); I-012	PROJECT DESIGNATION Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO. RC-195	AIR QUALITY ☐	45 Days / 45 Days
ICE CHEST NO. GWS-118-1	FIELD LOGBOOK NO. HNF-N-595-15 pg 23	ACTUAL SAMPLE DEPTH 52.2-54.7 ft	COA 302512ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR	7942408 48410	

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: ~~B28N50~~ MVM 11/29/10
B29K49

PRESERVATION	None
HOLDING TIME	180 Days
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Special Extraction - D3987 (100 Area RIFS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28ND6	SOIL	12-15-10	0900	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM A. Turner MZ 12-15-10	DATE/TIME 1110	RECEIVED BY/STORED IN MO 413 SSU R2 12-15-10	DATE/TIME 1110
RELINQUISHED BY/REMOVED FROM SSU-R2	DATE/TIME DEC 20 2010 0810	RECEIVED BY/STORED IN M. A. White	DATE/TIME DEC 20 2010 0810
RELINQUISHED BY/REMOVED FROM M. A. White	DATE/TIME DEC 20 2010 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME 12.23.10 1115	RECEIVED BY/STORED IN DSmith	DATE/TIME 12.23.10 1115
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
** The laboratory is to analyze pH within 24 hours of receipt.☐☐** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met.☐☐** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix.☐☐

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			RC-195-577	PAGE 1 OF 1
COLLECTOR Turner, Crow	COMPANY CONTACT RADLOFF, ANNA	TELEPHONE NO. (509) 376-4554	PROJECT COORDINATOR KESSNER, JH	PRICE CODE 8N	DATA TURNAROUND
SAMPLING LOCATION C8239 (118-B-8); I-013	PROJECT DESIGNATION Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO. RC-195	AIR QUALITY ☐	45 Days / 45 Days
ICE CHEST NO. CoWS-118-1	FIELD LOGBOOK NO. HNF-N-585-15 pg 28	ACTUAL SAMPLE DEPTH 55.8 - 58.3 ft	COA 302512ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR 7942408 48410		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B28N51

PRESERVATION	None
HOLDING TIME	180 Days
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Special Extraction - D3987 (100 Area RIFS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28ND9	SOIL	12-15-10	1020	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM A. Turner 12-15-10	DATE/TIME 1110	RECEIVED BY/STORED IN MO 413 SSU R2 12-15-10	DATE/TIME 1110
RELINQUISHED BY/REMOVED FROM SSU-R2	DATE/TIME DEC 20 2010 0810	RECEIVED BY/STORED IN M.A. White DEC 20 2010	DATE/TIME 0810
RELINQUISHED BY/REMOVED FROM M.A. White DEC 20 2010	DATE/TIME 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME
RELINQUISHED BY/REMOVED FROM FEDEX 12.23.10	DATE/TIME 1115	RECEIVED BY/STORED IN D Smith 12.23.10	DATE/TIME 1115
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
** The laboratory is to analyze pH within 24 hours of receipt.☐☐** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met.☐☐** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix.☐☐

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			RC-195-586	PAGE 1 OF 1
COLLECTOR: Turner Crow	COMPANY CONTACT: RADLOFF, ANNA	TELEPHONE NO.: (509) 376-4554	PROJECT COORDINATOR: KESSNER, JH	PRICE CODE: 8N	DATA TURNAROUND
SAMPLING LOCATION: C8239 (118-B-8); I-015	PROJECT DESIGNATION: Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO.: RC-195	AIR QUALITY: ☐	45 Days / 45 Days
ICE CHEST NO.: GWS - 118-1	FIELD LOGBOOK NO.: HNF-N-585-15 pg 28	ACTUAL SAMPLE DEPTH: 62.3-64.8 ft	COA: 302512ES10	METHOD OF SHIPMENT: FEDERAL EXPRESS	
SHIPPED TO: Lionville Laboratory Incorporated	OFFSITE PROPERTY NO.: SEE PTR		BILL OF LADING/AIR BILL NO.: SEE PTR	7942408 48410	

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B28N52

PRESERVATION	None
HOLDING TIME	180 Days
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Special Extraction - D3987 (100 Area RIFS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28NF5	SOIL	12-15-10	1455	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: A. Turner	DATE/TIME: 12-15-10 1540	RECEIVED BY/STORED IN: M0413 SSU R2	DATE/TIME: 12-15-10 1540
RELINQUISHED BY/REMOVED FROM: SSU-R2	DATE/TIME: DEC 20 2010 0810	RECEIVED BY/STORED IN: M.A. White	DATE/TIME: DEC 20 2010 0810
RELINQUISHED BY/REMOVED FROM: M.A. White	DATE/TIME: DEC 20 2010 1400	RECEIVED BY/STORED IN: FEDEX	DATE/TIME:
RELINQUISHED BY/REMOVED FROM: FedEx	DATE/TIME: 12-23-10 1115	RECEIVED BY/STORED IN:	DATE/TIME: 12-23-10 1115
RELINQUISHED BY/REMOVED FROM:	DATE/TIME:	RECEIVED BY/STORED IN:	DATE/TIME:
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
** The laboratory is to analyze pH within 24 hours of receipt.☐☐** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met.☐☐** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix.☐☐

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-195-599 | PAGE 1 OF 1

COLLECTOR: Turner Crow	COMPANY CONTACT: RADLOFF, ANNA	TELEPHONE NO.: (509) 376-4554	PROJECT COORDINATOR: KESSNER, JH
SAMPLING LOCATION: C8239 (118-B-8); I-018	PROJECT DESIGNATION: Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO.: RC-195
ICE CHEST NO.: CRP-03-014	FIELD LOGBOOK NO.: HNF-N-585-15 pg 31	ACTUAL SAMPLE DEPTH: 69.8-72.3 ft	COA: 302512ES10
SHIPPED TO: Lionville Laboratory Incorporated	OFFSITE PROPERTY NO.: SEE PTR		BILL OF LADING/AIR BILL NO.: SEE PTR

PRICE CODE: 8N | DATA TURNAROUND: 45 Days / 45 Days

AIR QUALITY: ☐

METHOD OF SHIPMENT: FEDERAL EXPRESS

7942408 49050

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B28N53

PRESERVATION	None
HOLDING TIME	180 Days
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Special Extraction - D3987 (100 Area RIFS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28NH4	SOIL	12-17-10	0835	X

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
A. Turner	12-17-10 1430	MO 4113 SSL RR	12-17-10 1430
SSL RR	DEC 20 2010 0905	M. A. White	DEC 20 2010 0905
M. A. White	DEC 20 2010 1400	FEDEX	
Fed Ex	12.23.10 1115		12.23.10 1115

SPECIAL INSTRUCTIONS
** The laboratory is to analyze pH within 24 hours of receipt.☐☐** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met.☐☐** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix.☐☐

ORIGINAL

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618 (REV 2)

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC Hanford

Project/SAF/SOW/Release #: RC-195

Date: 12-23-10

LvL Batch #: 1012185

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7942 4084 8410 9050
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: * ~~GWS-118-1~~ Missing handle
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 3.3 °C		Cooler # * GWS-118-1
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify) #GRP-03-014
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact. signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvL) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no. then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☑ Yes	☐ No	☑ N/A
13. VOA. TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A
15. Shipment meets LvL Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____