0097294

SAF-RC-194
Soil/Sediment Sampling – Integrated Remedial Investigation/Feasibility Study, 100-F Area Boreholes
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

No Distribution Required

COMMENTS:

SDG K3187 SAF-RC-194

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: C7970 (116-F-14); I-002

RECEIVED
JUN 23 2011
EDMC

LIONVILLE LABORATORY
A Division of Eberline Analytical Corporation

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

1 June 2011

RECEIVED
JUN 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 #	1102161
SDG #	K3187 SPEC EXT
SAF #	RC-194
Date Received	02/19/11
# Samples	1
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

RECEIVED
JUN 2011

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-194 Project Number: K3187 Project Manager: Joan Kessner	**Reported:** 05/31/2011 12:53

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B28NP1-1	1102161-01	Soil	02/09/2011 14:40	02/19/2011 10:30
B28NP1-2	1102161-02	Soil	02/09/2011 14:40	02/19/2011 10:30
B28NP1-3	1102161-03	Soil	02/09/2011 14:40	02/19/2011 10:30
B28NP1-4	1102161-04	Soil	02/09/2011 14:40	02/19/2011 10:30
B28NP1-A1	1102161-05	Leachate	02/09/2011 14:40	02/19/2011 10:30
B28NP1-B1	1102161-06	Leachate	02/09/2011 14:40	02/19/2011 10:30
B28NP1-B2	1102161-07	Leachate	02/09/2011 14:40	02/19/2011 10:30
B28NP1-C1	1102161-08	Leachate	02/09/2011 14:40	02/19/2011 10:30

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-194
LVL#: 1102161
SDG/SAF#: K3187/RC-194

W.O.#: 60049-001-001-0001-00
Date Received: 02-19-11

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 1 soil sample analyzed in quadruplicate and 4 TCLP leachate samples.

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

   The TCLP leachate sample B28NP1-A1 was prepared with a 5-fold dilution 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 21 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. All soil matrix spike analyses were performed on WC-Hanford sample B26RD6-1 within the same digestion batch. Please refer to this package for the associated QC forms.

11. All TCLP leachate matrix spike analyses were performed on WC-Hanford sample J1CN48-B1 within the same digestion batch. Please refer to this package for the associated QC forms.

12. 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.

13. 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.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory

5/31/11
Date

alm/02-161specext

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/31/2011 12:53

Notes and Definitions

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

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

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-194 Project Number: K3187 Project Manager: Joan Kessner	**Reported:** 05/31/2011 12:53

B28NP1-1
1102161-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**1.86**	B	2.71	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Barium	**59.3**		0.451	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Cadmium	**0.904**		0.271	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Chromium	**100**		0.271	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Lead	**7.93**		2.71	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Selenium	4.51	U	4.51	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Silver	0.451	U	0.451	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/31/2011 12:53

B28NP1-2
1102161-02 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**1.59**	B	2.85	mg/kg dry	1	L104412	04/26/2011	05/13/2011	6010B
Barium	**58.1**		0.476	mg/kg dry	1	L104412	04/26/2011	05/13/2011	6010B
Cadmium	**0.824**		0.285	mg/kg dry	1	L104412	04/26/2011	05/13/2011	6010B
Chromium	**91.5**		0.285	mg/kg dry	1	L104412	04/26/2011	05/13/2011	6010B
Lead	**7.86**		2.85	mg/kg dry	1	L104412	04/26/2011	05/13/2011	6010B
Selenium	4.76	U	4.76	mg/kg dry	1	L104412	04/26/2011	05/13/2011	6010B
Silver	0.476	U	0.476	mg/kg dry	1	L104412	04/26/2011	05/13/2011	6010B

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/31/2011 12:53

B28NP1-3
1102161-03 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**1.86**	B	3.02	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Barium	**61.7**		0.503	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Cadmium	**0.949**		0.302	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Chromium	**103**		0.302	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Lead	**8.19**		3.02	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Selenium	5.03	U	5.03	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Silver	0.503	U	0.503	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/31/2011 12:53

B28NP1-4
1102161-04 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**2.06**	B	2.41	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Barium	**55.7**		0.402	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Cadmium	**0.868**		0.241	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Chromium	**94.8**		0.241	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Lead	**7.63**		2.41	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Selenium	4.02	U	4.02	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B
Silver	0.402	U	0.402	mg/kg dry	1	L104412	04/26/2011	05/11/2011	6010B

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/31/2011 12:53

B28NP1-A1
1102161-05 (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	L105291	05/24/2011	05/27/2011	6010
Barium	**0.0265**		0.0250	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Cadmium	0.0150	U	0.0150	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Chromium	0.0150	U	0.0150	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Lead	0.150	U	0.150	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Selenium	0.250	U	0.250	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Silver	0.0250	U	0.0250	mg/L	1	L105291	05/24/2011	05/27/2011	6010

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/31/2011 12:53

B28NP1-B1

1102161-06 (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	L105291	05/24/2011	05/27/2011	6010
Barium	**0.0325**		0.00500	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Cadmium	**0.00151**	B	0.00300	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L105291	05/24/2011	05/27/2011	6010

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/31/2011 12:53

B28NP1-B2
1102161-07 (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	L105291	05/24/2011	05/27/2011	6010
Barium	**0.0344**		0.00500	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Cadmium	**0.00146**	B	0.00300	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L105291	05/24/2011	05/27/2011	6010

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/31/2011 12:53

B28NP1-C1
1102161-08 (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	L105291	05/24/2011	05/27/2011	6010
Barium	**0.0401**		0.00500	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Cadmium	0.00300	U	0.00300	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Chromium	0.00300	U	0.00300	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Lead	0.0300	U	0.0300	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Selenium	0.0500	U	0.0500	mg/L	1	L105291	05/24/2011	05/27/2011	6010
Silver	0.00500	U	0.00500	mg/L	1	L105291	05/24/2011	05/27/2011	6010

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	05/31/2011 12:53

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 L104412 - SW 3050B										
Blank (L104412-BLK1)				Prepared: 04/26/2011 Analyzed: 05/11/2011						
Arsenic	2.27	U	2.27	mg/kg wet						
Barium	0.379	U	0.379	mg/kg wet						
Cadmium	0.227	U	0.227	mg/kg wet						
Chromium	0.123	B	0.227	mg/kg wet						
Lead	2.27	U	2.27	mg/kg wet						
Selenium	3.79	U	3.79	mg/kg wet						
Silver	0.379	U	0.379	mg/kg wet						
Reference (L104412-SRM1)				Prepared: 04/26/2011 Analyzed: 05/11/2011						
Arsenic	121		7.26	mg/kg wet	114.00		106	82.8-117.54		
Barium	320		1.21	mg/kg wet	307.00		104	79.8-120.2		
Cadmium	230		0.726	mg/kg wet	225.00		102	83.6-116.4		
Chromium	85.7		0.726	mg/kg wet	77.200		111	73.3-126.4		
Lead	201		7.26	mg/kg wet	190.00		106	81.6-118.4		
Selenium	194		12.1	mg/kg wet	187.00		104	75.9-124.6		
Silver	86.0		1.21	mg/kg wet	83.500		103	82.7-117.1		

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/31/2011 12:53

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 L105291 - SW 3005A										
Blank (L105291-BLK1)				Prepared: 05/24/2011 Analyzed: 05/27/2011						
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 (L105291-BLK2)				Prepared: 05/24/2011 Analyzed: 05/27/2011						
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 (L105291-BS1)				Prepared: 05/24/2011 Analyzed: 05/27/2011						
Arsenic	10.1		0.0300	mg/L	10.000		101	80-120		20
Barium	5.04		0.00500	mg/L	5.0000		101	80-120		20
Cadmium	0.245		0.00300	mg/L	0.25000		97.9	80-120		20
Chromium	0.489		0.00300	mg/L	0.50000		97.7	80-120		20
Lead	2.48		0.0300	mg/L	2.5000		99.0	80-120		20
Selenium	10.2		0.0500	mg/L	10.000		102	80-120		20
Silver	0.497		0.00500	mg/L	0.50000		99.4	80-120		20

Lionville Laboratory **Logbook #:** 957

SAMPLE DIGESTION RECORD

Digestion Batch #: L104412
Date/Time Initiated: 4/26/11 21:00
Date/Time Completed: 4/26/11 23:00
Analyst: BLH
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: 95°C
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
1101115-1		0.55	50		TO	Course	Black	Rocks	
-1-MS1	0.5	0.70	50						
-2		0.70	50						
-3		0.64	50						
-4		0.50	50						
-5		0.56	50			Fine	Black	Rocks	
-6		0.63	50						
-7		0.60	50						
-8		0.57	50						
IE BLH 4/26/11 -9		0.58	50			Course	Black	Rocks	
-10		0.65	50						
-11		0.61	50						
-12		0.53	50						
-13		0.63	50			Fine	Black	Rocks	
-14		0.53	50						
-15		0.51	50						
-16		0.53	50						
1102161-1		0.58	50			Fine	Brown		
-2		0.55	50						
-3		0.52	50						
-4		0.65	50						
BLK		0.66	50						
SRM		0.62	50						

BLH 4/26/11

Spiking IDs / Expiration Date:
MS#: 1601843

LCS#: 1100103

Reagent IDs:
HNO_3 K09041
HCl K12046
H_2O_2 J52A01
1:1 HNO_3 637 641-05
1:1 HCl

File ID#:

Data Review By / Date: 4/28/11

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

Page #:

Lionville Laboratory

Logbook #: 971

SAMPLE DIGESTION RECORD

Digestion Batch #: L105291
Date/Time Initiated: 5/24/11 1155
Date/Time Completed: 5/25/11 1210
Analyst: JS
Matrix (circle): Soil Water Other
Method (circle one): 3005A 3010A 3050 200.7 (1994)
pH/Turbidity: N/A for Solids.
NOTE: All temperatures are recorded as corrected temperatures

Digested / Undigested (circle one)
Balance #: NCA
Balance Cal Verification: Y NA
Temp: 95
BLOCK 1 2 (circle one)

C/C-clear/colorless

Work Order #	Spike Vol (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/Sol/TC	Texture	Color / Appearance	Artifact	Turb
1101210-09		10	50		TO	N/A	C/C	N/A	N/A
10		50	50				C/C		
11		50	50				C/C		
12		50	50				C/C		
13		10	50				C/C		
14		50	50				C/C		
15		50	50				C/C		
16		50	50				C/C		
1107173-09		10	50				C/C		
10		10	50				C/C		
11		50	50				C/C		
12		50	50				C/C		
13		10	50				C/C		
14		50	50				C/C		
15		50	50				C/C		
16		50	50				C/C		
1107161-05		10	50				C/C		
06		50	50				C/C		
07		50	50				C/C		
08		50	50				C/C		
BLK1		50	50				C/C		
MS1	0.5	50	50				C/C		
+ MS1		50	50				C/C		
* L105291-MS1	0.5	50	50				C/C		

JJS 5/25/11

Spiking IDs / Expiration Date:
MS#: 1100338
1100217

LCS#: 1100290

Reagent IDs:
HNO_3 K09041
HCl K14054
H_2O_2
1:1 HNO_3
1:1 HCl

File ID#:

Data Review By/Date:
AJM 5/26/11

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

* Associated with Sample 1101210-10
+ Associated with L105207.

Page #:

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 969

Start Date: 5-17-11 Start Time: 13:00 Analyst: RA SOP: SPI-1311.1	End Date: 5-18-11 End Time: 7:00 Analyst: RA Method: 1311-1	Tumbler Speed: 30 RPM Leachate Batch #: 1105207 Leachate Page: 5 of 6 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: 1102161-05 Client ID#: B28NPI-A1 pH After 5 Min: 8.10 pH After Acid/Heat: N/A Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 7.23	Initial Filtration Data and Comments: Solids: ____% / NA RAD II Initial Filtrate Added:
LvL #: 1102161-06 Client ID#: B28NPI-B1 pH After 5 Min: 8.10 pH After Acid/Heat: N/A Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 7.34	Initial Filtration Data and Comments: Solids: ____% / NA Initial Filtrate Added:
LvL #: 1102161-07 Client ID#: B28NPI-B2 pH After 5 Min: 8.10 pH After Acid/Heat: N/A Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 7.35	Initial Filtration Data and Comments: Solids: ____% / NA Initial Filtrate Added:
LvL #: 1102161-08 Client ID#: B28NPI-C1 pH After 5 Min: 8.10 pH After Acid/Heat: N/A Extraction Fluid/pH: 5.05 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: 7.44	Initial Filtration Data and Comments: Solids: ____% / NA Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date BG 5/26/11

SPI-1311.1-A-0310

Page #

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 969

Start Date: 5-17-11 Start Time: 1300 Analyst: RA SOP: SPI-1311.1	End Date: 5-18-11 End Time: 7:00 Analyst: RA Method: 1311	Tumbler Speed: 30 RPM Leachate Batch #: L105207 Leachate Page: 6 of 6 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: L105207 Client ID#: N/A pH After 5 Min: 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 #: 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 RA Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date 5/24/11

SPI-1311.1-A-0310

Page #

Lionville Laboratory Use Only

1102161

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Lionville Laboratory
A Division of Eberline Analytical Corporation

Client: WC Hanford SAF# RC-194
Est. Final Proj. Sampling Date:
Project#:
Project Contact/Phone#:
Lionville Laboratory Project Manager: O-Johnson
QC: Std Del: STD TAT: 30 days
Date Rec'd: 2-19-11 Date Due: 3-21-11

Refrigerator #						A-1											
#/Type Container	Liquid					1											
	Solid					1P											
Volume	Liquid																
	Solid					500											
Preservatives																	
ANALYSES REQUESTED →		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb	Spec Ext			Metal	CN							

Lionville Laboratory Use Only

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected					CRG	6010 RCRA				TCLP CRG	TCLP 6010 RCRA				
01	B28NP1-1	✓	✓	SOIL	2-9-11	1440					X	X									
02	2										X	X									
03	3										X	X									
04	4										X	X									
05	-A1			L																	
06	-B1																				
07	-B2																				
08	-C1																				

Special Instructions:

Special Instructions:
1. See SRC
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	2/19/11	1030

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN			

Chemrad Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-194-008	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 8N	DATA TURNAROUND
Turner, wallace, conow	KESSNER, JH	375-4688	KESSNER, JH		
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY** ☐	45 Days / 45 Days
C7970 (116-F-14); I-002	Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		RC-194		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**	
GWS-000	HNF-N-585-14 PG 31	20.2-22.7'	302513ES10	FEDERAL EXPRESS	
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
Lionville Laboratory Incorporated	SEE PTR		SEE PTR 79444270210 5		

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: ~~B28NV9~~
B2BXR1 KS 2/9/11

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	
B28NP1	SOIL	2-9-11	1440	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
A. Turner	2-9-11 1550	MO 413 SSY R2	2-9-11 1550	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
SSU-R2	2-18-11 0900	T.A. Wallace CHRPC	2-18-11 0900	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
T.A. Wallace CHRPC	2-18-11 1400	Fedex		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
Fed Ex	2-19-11 1030	VICTOR HERNANDEZ	2-19-11 1030	
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	

ORIGINAL

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

A-6003-618(01/06)

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC Hanford

Project/SAF/SOW/Release #: RC-194

Date: 2-19-11

LvL Batch #: 1102161

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 794442702105
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.1°	°C	Cooler # GWS-000
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify)
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact. signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvL) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no. then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA. TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☑ Yes	☐ No	☐ N/A
15. Shipment meets LvL Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A
Person Contacted _____		Date _____	

LIONVILLE LABORATORIES
A division of Eberline Analytical Corporation

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

RECEIVED
JUN 2011

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-194 Project Number: K3187 Project Manager: Joan Kessner	**Reported:** 05/26/2011 17:00

Analytical Report for Wet Chemistry

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B28NP1-1	1102161-01	Soil	02/09/2011 14:40	02/19/2011 10:30
B28NP1-2	1102161-02	Soil	02/09/2011 14:40	02/19/2011 10:30
B28NP1-3	1102161-03	Soil	02/09/2011 14:40	02/19/2011 10:30
B28NP1-4	1102161-04	Soil	02/09/2011 14:40	02/19/2011 10:30
B28NP1-A1	1102161-05	Leachate	02/09/2011 14:40	02/19/2011 10:30
B28NP1-B1	1102161-06	Leachate	02/09/2011 14:40	02/19/2011 10:30
B28NP1-B2	1102161-07	Leachate	02/09/2011 14:40	02/19/2011 10:30
B28NP1-C1	1102161-08	Leachate	02/09/2011 14:40	02/19/2011 10:30

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-194 K3187
LVL#: 1102161 **Date Received:** 02-19-11

INORGANIC NARRATIVE

1. This narrative covers the analyses of 4 soil and 4 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 total Hexavalent Chromium (Cr^{6+}) and the leachate samples analysis were performed within 24 hours of the completion of the filtering step of the preparation procedure.

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 recoveries for sample B28NP1-1 were within the 75-125% control limits.

7. The replicate analysis for Percent Solids was within the 20% Relative Percent Difference (RPD) control limit.

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

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

Iain Daniels
Laboratory Manager
Lionville Laboratory

6/1/11
Date

njp\i02-161

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 9 pages.

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/26/2011 17:00

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Results reported from a dilution; related reporting limits are elevated due to the presence of an interference or a high target value.
*	Value outside QC acceptance criteria
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
Dry	Sample results reported on a dry weight basis
Wet	Sample results reported on a wet weight basis
RPD	Relative Percent Difference
LOD	Limit of Detection (LOD): the minimum estimated concentration of a target analyte that can be detected reliably. Concentrations at the LOD or between the LOD and LOQ are flagged estimated with either a 'J' qualifier or client-specific qualifier.
LOQ	Limit of Quantitation (LOQ): the minimum concentration of a target analyte that can be quantified reliably

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

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-194 Project Number: K3187 Project Manager: Joan Kessner	**Reported:** 05/26/2011 17:00

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier	LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
B28NP1-1 (1102161-01) Soil									
%Solids	**95.6**	0.1	0.1	% by Weight	1	L102344	02/23/2011	02/23/2011	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.52	mg/kg dry	1	L103128	03/09/2011	03/09/2011	SW846 7196A
B28NP1-2 (1102161-02) Soil									
%Solids	**95.6**	0.1	0.1	% by Weight	1	L102344	02/23/2011	02/23/2011	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.52	mg/kg dry	1	L103128	03/09/2011	03/09/2011	SW846 7196A
B28NP1-3 (1102161-03) Soil									
%Solids	**95.6**	0.1	0.1	% by Weight	1	L102344	02/23/2011	02/23/2011	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.52	mg/kg dry	1	L103128	03/09/2011	03/09/2011	SW846 7196A
B28NP1-4 (1102161-04) Soil									
%Solids	**95.6**	0.1	0.1	% by Weight	1	L102344	02/23/2011	02/23/2011	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.52	mg/kg dry	1	L103128	03/09/2011	03/09/2011	SW846 7196A
B28NP1-A1 (1102161-05) Leachate									
Hexavalent Chromium	**0.03**	0.01	0.02	mg/L	1	L105258	05/19/2011	05/19/2011	SW846 7196A
B28NP1-B1 (1102161-06) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L105258	05/19/2011	05/19/2011	SW846 7196A
B28NP1-B2 (1102161-07) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L105258	05/19/2011	05/19/2011	SW846 7196A
B28NP1-C1 (1102161-08) Leachate									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L105258	05/19/2011	05/19/2011	SW846 7196A

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

WC-Hanford, Inc.	Project: RC-194	
2620 Fermi Avenue	Project Number: K3187	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	05/26/2011 17:00

Wet Chemistry - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L102344 - % Solids										
Duplicate (L102344-DUP1)	**Source: 1102161-01**			Prepared & Analyzed: 02/23/2011						
%Solids	95.4	0.1	0.1	% by Weight		95.6			0.2	20
Batch L103128 - Default Prep GenChem										
Blank (L103128-BLK1)				Prepared & Analyzed: 03/09/2011						
Hexavalent Chromium	0.20 U	0.20	0.50	mg/kg wet						
LCS (L103128-BS1)				Prepared & Analyzed: 03/09/2011						
Hexavalent Chromium	3.90	0.20	0.50	mg/kg wet	4.0000		98	80-120		
LCS (L103128-BS2)				Prepared & Analyzed: 03/09/2011						
Hexavalent Chromium	997 D	20.0	50.0	mg/kg wet	1004.6		99	80-120		
Matrix Spike (L103128-MS3)	**Source: 1102161-01**			Prepared & Analyzed: 03/09/2011						
Hexavalent Chromium	3.83	0.21	0.52	mg/kg dry	4.1860	0.21 U	92	75-125		
Matrix Spike (L103128-MS4)	**Source: 1102161-01**			Prepared & Analyzed: 03/09/2011						
Hexavalent Chromium	1210 D	20.9	52.3	mg/kg dry	1287.2	0.21 U	94	75-125		
Batch L105258 - Default Prep GenChem										
Blank (L105258-BLK1)				Prepared & Analyzed: 05/19/2011						
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L						
Blank (L105258-BLK2)				Prepared & Analyzed: 05/19/2011						
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L						

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-194 Project Number: K3187 Project Manager: Joan Kessner	**Reported:** 05/26/2011 17:00

Wet Chemistry - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L105258 - Default Prep GenChem										
LCS (L105258-BS1)					Prepared & Analyzed: 05/19/2011					
Hexavalent Chromium	0.99	0.01	0.02	mg/L	1.0000		99	90-110		

Lionville Laboratory Use Only

1102161

Custody Transfer Record/Lab Work Request

Page 1 of 1

Lionville Laboratory
A Division of Eberline Analytical Corporation

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: WC Hanford SAF# RC-194
Est. Final Proj. Sampling Date:
Project#:
Project Contact/Phone#:
Lionville Laboratory Project Manager: O-Johnson
QC: SW Del: STD TAT: 30 days

Date Rec'd: 2-19-11 Date Due: 3-21-11

Refrigerator #						A 1											
#/Type Container	Liquid																
	Solid					1P											
Volume	Liquid																
	Solid					500											
Preservatives																	
ANALYSES REQUESTED →		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb	Spec Ext.			Metal	CN							
		Lionville Laboratory Use Only															
						CRG	6010 RCRA				TCLP CRG	TCLP 6010RCRA					

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	CRG	6010 RCRA	TCLP CRG	TCLP 6010RCRA
01	B28NP1-1	✓	✓	SOIL	2-9-11	1440	X	X		
02	2						X	X		
03	3						X	X		
04	4						X	X		
05	-A1			L						
06	-B1									
07	-B2									
08	-C1									

Special Instructions:

Special Instructions:
1. See SRC
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	2/19/11	1030

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL			
REWRITTEN			

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-194-008

COLLECTOR Turner, wallace, carow	**COMPANY CONTACT** KESSNER, JH	**TELEPHONE NO.** 375-4688	**PROJECT COORDINATOR** KESSNER, JH
SAMPLING LOCATION C7970 (116-F-14); I-002	**PROJECT DESIGNATION** Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		**SAF NO.** RC-194
ICE CHEST NO. GWS-000	**FIELD LOGBOOK NO.** HNF-N-585-14 PG 31	**ACTUAL SAMPLE DEPTH** 20.2-22.7'	**COA** 302513ES10
SHIPPED TO Lionville Laboratory Incorporated	**OFFSITE PROPERTY NO.** SEE PTR		**BILL OF LADING/AIR BILL NO.** SEE PTR 7944427 02105

PRICE CODE 8N

AIR QUALITY ☐

DATA TURNAROUND 45 Days / 45 Days

METHOD OF SHIPMENT FEDERAL EXPRESS

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: ~~B28NV9~~ B2BXR1 KS 2/9/11

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	
B28NP1	SOIL	2-9-11	1440	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
A. Turner	2-9-11 1550	MO 413 SSY R2	2-9-11 1550
SSU-R2	2-18-11 0900	T.A. Wallace CHRPC	2-18-11 0900
T.A. Wallace CHRPC	2-19-11 1400	Fedex	
FedEx	2-19-11 1030	VICTOR HERNANDEZ	2-19-11 1030
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

ORIGINAL

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

A-6003-618(01/06)

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: CH Hanford

Project/SAF/SOW/Release #: RC-194

Date: 2-19-11

LvL Batch #: 1102161

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 794442702105
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.1°	°C	Cooler # GWS-000
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify)
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvL) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☑ Yes	☐ No	☐ N/A
15. Shipment meets LvL Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____