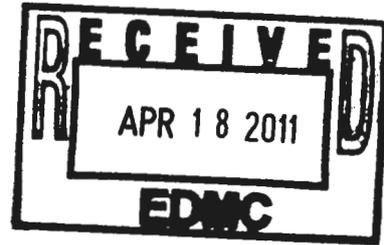


**SAF-RC-195**  
**Soil/Sediment Sampling – Integrated**  
**Remedial Investigation/Feasibility Study,**  
**100-BC Boreholes**  
**FINAL DATA PACKAGE**

**COMPLETE COPY OF DATA PACKAGE TO:**

No Distribution Required

**COMMENTS:**



**SDG K2677      SAF-RC-195**

Rad only

Chem only

Rad & Chem

Complete

Partial

**Sample Location:      C7847 (118-B-8); I-001, I-002**

21 March 2011

Joan Kessner  
WC-Hanford, Inc.  
2620 Fermi Avenue  
MSIN H9-03  
Richland, WA 99354

Subject: Analytical Data Package

Dear Ms. Kessner:

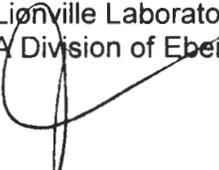
Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	1011240
SDG #	K2677 SPEC EXT
SAF #	RC-195
Date Received	11/30/10
# Samples	2
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: K2677  
Project Manager: Joan Kessner

Reported:  
03/21/2011 09:38

**Analytical Report for Metals by SW846 6000/7000 series**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B28N86-1	1011240-01	Soil	11/17/2010 12:55	11/30/2010 09:40
B28N86-2	1011240-02	Soil	11/17/2010 12:55	11/30/2010 09:40
B28N86-3	1011240-03	Soil	11/17/2010 12:55	11/30/2010 09:40
B28N86-4	1011240-04	Soil	11/17/2010 12:55	11/30/2010 09:40
B28N90-1	1011240-05	Soil	11/17/2010 13:50	11/30/2010 09:40
B28N90-2	1011240-06	Soil	11/17/2010 13:50	11/30/2010 09:40
B28N90-3	1011240-07	Soil	11/17/2010 13:50	11/30/2010 09:40
B28N90-4	1011240-08	Soil	11/17/2010 13:50	11/30/2010 09:40
B28N86-A1	1011240-09	Leachate	11/17/2010 12:55	11/30/2010 09:40
B28N86-A2	1011240-10	Leachate	11/17/2010 12:55	11/30/2010 09:40
B28N86-B1	1011240-11	Leachate	11/17/2010 12:55	11/30/2010 09:40
B28N86-C1	1011240-12	Leachate	11/17/2010 12:55	11/30/2010 09:40
B28N90-A1	1011240-13	Leachate	11/17/2010 13:50	11/30/2010 09:40
B28N90-B1	1011240-14	Leachate	11/17/2010 13:50	11/30/2010 09:40
B28N90-B2	1011240-15	Leachate	11/17/2010 13:50	11/30/2010 09:40
B28N90-C1	1011240-16	Leachate	11/17/2010 13:50	11/30/2010 09:40



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## Case Narrative

**Client:** WC-HANFORD RC-195  
**LVL#:** 1011240  
**SDG/SAF#:** K2677/RC-195

**W.O.#:** 60049-001-001-0001-00  
**Date Received:** 11-30-10

### 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.

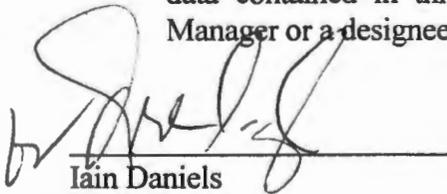
All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise.

1. This narrative covers the analyses of 2 soil samples analyzed in quadruplicate and 8 TCLP leachate samples.
2. The samples were prepared and analyzed in accordance with methods listed on the data report forms.

The TCLP leachate samples B28N86-A1, B28N86-A2, and B28N90-A1 were prepared with 5-fold dilutions due to insufficient volume. The remaining TCLP leachate samples were analyzed and reported with 5-fold dilutions due to sample matrix.

3. All analyses were performed within the required holding times.
4. Please refer to the Sample Receipt Check List for any sample discrepancies in LvLI's sample acceptance policy.
5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within 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.

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 B27H06-1 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 B28DP6-C1 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

alm/11-240specext

3/21/11  
Date

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WC-Hanford, Inc.  
2620 Fermi Avenue  
Richland WA, 99354

Project: RC-195  
Project Number: K2677  
Project Manager: Joan Kessner

Reported:  
03/21/2011 09:38

### 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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Reported:  
03/21/2011 09:38

**B28N86-1**  
**1011240-01 (Soil)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**Metals by SW846 6000/7000 series**

Arsenic	1.86		0.975	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Barium	64.0		0.488	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Cadmium	0.0838	B	0.244	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Chromium	9.21		0.975	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Lead	4.01		0.975	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Selenium	0.975	U	0.975	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Silver	0.975	U	0.975	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B

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**B28N86-2**  
**1011240-02 (Soil)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**Metals by SW846 6000/7000 series**

Arsenic	1.40		0.892	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Barium	42.5		0.446	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Cadmium	0.0819	B	0.223	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Chromium	5.82		0.892	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Lead	3.08		0.892	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Selenium	0.892	U	0.892	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Silver	0.892	U	0.892	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B

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 Project Manager: Joan Kessner

Reported:  
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**B28N86-3**  
**1011240-03 (Soil)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**Metals by SW846 6000/7000 series**

Arsenic	2.58	0.975	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Barium	58.8	0.488	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Cadmium	0.106 B	0.244	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Chromium	10.6	0.975	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Lead	4.95	0.975	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Selenium	0.975 U	0.975	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Silver	0.975 U	0.975	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B

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**B28N86-4**  
**1011240-04 (Soil)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**Metals by SW846 6000/7000 series**

Arsenic	2.11		0.721	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Barium	47.7		0.361	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Cadmium	0.0825	B	0.180	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Chromium	8.72		0.721	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Lead	3.75		0.721	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Selenium	0.721	U	0.721	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Silver	0.721	U	0.721	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B

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**B28N90-1**  
**1011240-05 (Soil)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**Metals by SW846 6000/7000 series**

Arsenic	3.94		0.939	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Barium	59.3		0.469	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Cadmium	0.101	B	0.235	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Chromium	15.4		0.939	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Lead	4.50		0.939	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Selenium	0.939	U	0.939	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Silver	0.939	U	0.939	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B

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Project Number: K2677  
Project Manager: Joan Kessner

Reported:  
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**B28N90-2**  
**1011240-06 (Soil)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**Metals by SW846 6000/7000 series**

Arsenic	3.40		0.923	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Barium	69.2		0.461	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Cadmium	0.112	B	0.231	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Chromium	15.8		0.923	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Lead	5.05		0.923	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Selenium	0.923	U	0.923	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Silver	0.923	U	0.923	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B

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**B28N90-3**  
**1011240-07 (Soil)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**Metals by SW846 6000/7000 series**

Arsenic	3.17		0.838	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Barium	61.9		0.419	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Cadmium	0.0983	B	0.209	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Chromium	86.3		0.838	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Lead	4.66		0.838	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Selenium	0.838	U	0.838	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Silver	0.838	U	0.838	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B

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03/21/2011 09:38

**B28N90-4**  
**1011240-08 (Soil)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**Metals by SW846 6000/7000 series**

Arsenic	3.22		0.939	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Barium	81.6		0.469	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Cadmium	0.119	B	0.235	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Chromium	15.0		0.939	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Lead	5.25		0.939	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Selenium	0.939	U	0.939	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B
Silver	0.939	U	0.939	mg/kg dry	1	L103139	03/10/2011	03/12/2011	6010B

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Project Manager: Joan Kessner

Reported:  
03/21/2011 09:38

**B28N86-A1**  
**1011240-09 (Leachate)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**TCLP Metals by SW846 1311 6000/7000 series**

Arsenic	0.0750 U	0.0750	mg/L	1	L103232	03/16/2011	03/19/2011	6010
<b>Barium</b>	<b>0.0102</b>	0.00500	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Cadmium	0.0150 U	0.0150	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Chromium	0.0250 U	0.0250	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Lead	0.0500 U	0.0500	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Selenium	0.100 U	0.100	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Silver	0.0300 U	0.0300	mg/L	1	L103232	03/16/2011	03/19/2011	6010

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**B28N86-A2**  
**1011240-10 (Leachate)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**TCLP Metals by SW846 1311 6000/7000 series**

Arsenic	0.0750 U	0.0750	mg/L	1	L103232	03/16/2011	03/19/2011	6010
<b>Barium</b>	<b>0.00985</b>	0.00500	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Cadmium	0.0150 U	0.0150	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Chromium	0.0250 U	0.0250	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Lead	0.0500 U	0.0500	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Selenium	0.100 U	0.100	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Silver	0.0300 U	0.0300	mg/L	1	L103232	03/16/2011	03/19/2011	6010

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 Project Number: K2677  
 Project Manager: Joan Kessner

Reported:  
 03/21/2011 09:38

**B28N86-B1**  
**1011240-11 (Leachate)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**TCLP Metals by SW846 1311 6000/7000 series**

Arsenic	0.0750 U	0.0750	mg/L	5	L103232	03/16/2011	03/19/2011	6010
<b>Barium</b>	<b>0.00571</b>	0.00500	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Cadmium	0.0150 U	0.0150	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Chromium	0.0250 U	0.0250	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Lead	0.0500 U	0.0500	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Selenium	0.100 U	0.100	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Silver	0.0300 U	0.0300	mg/L	5	L103232	03/16/2011	03/19/2011	6010

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 Project Manager: Joan Kessner

Reported:  
 03/21/2011 09:38

**B28N86-C1**  
**1011240-12 (Leachate)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**TCLP Metals by SW846 1311 6000/7000 series**

Arsenic	0.0750 U	0.0750	mg/L	5	L103232	03/16/2011	03/19/2011	6010
<b>Barium</b>	<b>0.00395</b> B	0.00500	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Cadmium	0.0150 U	0.0150	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Chromium	0.0250 U	0.0250	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Lead	0.0500 U	0.0500	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Selenium	0.100 U	0.100	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Silver	0.0300 U	0.0300	mg/L	5	L103232	03/16/2011	03/19/2011	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: K2677  
 Project Manager: Joan Kessner

Reported:  
 03/21/2011 09:38

**B28N90-A1**  
**1011240-13 (Leachate)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**TCLP Metals by SW846 1311 6000/7000 series**

Arsenic	0.0750 U	0.0750	mg/L	1	L103232	03/16/2011	03/19/2011	6010
<b>Barium</b>	<b>0.0100</b>	0.00500	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Cadmium	0.0150 U	0.0150	mg/L	1	L103232	03/16/2011	03/19/2011	6010
<b>Chromium</b>	<b>0.0192</b> B	0.0250	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Lead	0.0500 U	0.0500	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Selenium	0.100 U	0.100	mg/L	1	L103232	03/16/2011	03/19/2011	6010
Silver	0.0300 U	0.0300	mg/L	1	L103232	03/16/2011	03/19/2011	6010

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Richland WA, 99354

Project: RC-195  
Project Number: K2677  
Project Manager: Joan Kessner

Reported:  
03/21/2011 09:38

**B28N90-B1**  
**1011240-14 (Leachate)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**TCLP Metals by SW846 1311 6000/7000 series**

Arsenic	0.0750 U	0.0750	mg/L	5	L103232	03/16/2011	03/19/2011	6010
<b>Barium</b>	<b>0.00546</b>	0.00500	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Cadmium	0.0150 U	0.0150	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Chromium	0.0250 U	0.0250	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Lead	0.0500 U	0.0500	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Selenium	0.100 U	0.100	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Silver	0.0300 U	0.0300	mg/L	5	L103232	03/16/2011	03/19/2011	6010

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WC-Hanford, Inc.  
2620 Fermi Avenue  
Richland WA, 99354

Project: RC-195  
Project Number: K2677  
Project Manager: Joan Kessner

Reported:  
03/21/2011 09:38

**B28N90-B2**  
**1011240-15 (Leachate)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**TCLP Metals by SW846 1311 6000/7000 series**

Arsenic	0.0750 U	0.0750	mg/L	5	L103232	03/16/2011	03/19/2011	6010
<b>Barium</b>	<b>0.00873</b>	0.00500	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Cadmium	0.0150 U	0.0150	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Chromium	0.0250 U	0.0250	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Lead	0.0500 U	0.0500	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Selenium	0.100 U	0.100	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Silver	0.0300 U	0.0300	mg/L	5	L103232	03/16/2011	03/19/2011	6010



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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2677 Project Manager: Joan Kessner	Reported: 03/21/2011 09:38
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**B28N90-C1**  
**1011240-16 (Leachate)**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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**Lionville Laboratory**

**TCLP Metals by SW846 1311 6000/7000 series**

Arsenic	0.0750 U	0.0750	mg/L	5	L103232	03/16/2011	03/19/2011	6010
<b>Barium</b>	<b>0.00470</b> B	0.00500	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Cadmium	0.0150 U	0.0150	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Chromium	0.0250 U	0.0250	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Lead	0.0500 U	0.0500	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Selenium	0.100 U	0.100	mg/L	5	L103232	03/16/2011	03/19/2011	6010
Silver	0.0300 U	0.0300	mg/L	5	L103232	03/16/2011	03/19/2011	6010

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 Richland WA, 99354

Project: RC-195  
 Project Number: K2677  
 Project Manager: Joan Kessner

Reported:  
 03/21/2011 09:38

**Metals by SW846 6000/7000 series - Quality Control**  
**Lionville Laboratory**

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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**Batch L103139 - SW 3050B**

**Blank (L103139-BLK1)**

Prepared: 03/10/2011 Analyzed: 03/12/2011

Arsenic	0.877 U	0.877	mg/kg wet						
Barium	0.439 U	0.439	mg/kg wet						
Cadmium	0.219 U	0.219	mg/kg wet						
Chromium	0.877 U	0.877	mg/kg wet						
Lead	0.877 U	0.877	mg/kg wet						
Selenium	0.877 U	0.877	mg/kg wet						
Silver	0.877 U	0.877	mg/kg wet						

**Reference (L103139-SRM1)**

Prepared: 03/10/2011 Analyzed: 03/12/2011

Arsenic	104	2.00	mg/kg wet	114.00		91	82.8-117.54		
Barium	266	1.00	mg/kg wet	307.00		87	79.8-120.2		
Cadmium	207	0.500	mg/kg wet	225.00		92	83.6-116.4		
Chromium	71.1	2.00	mg/kg wet	77.200		92	73.3-126.4		
Lead	165	2.00	mg/kg wet	190.00		87	81.6-118.4		
Selenium	169	2.00	mg/kg wet	187.00		90	75.9-124.6		
Silver	74.4	2.00	mg/kg wet	83.500		89	82.7-117.1		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2677 Project Manager: Joan Kessner	Reported: 03/21/2011 09:38
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**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
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**Batch L103232 - SW 3010A**

<b>Blank (L103232-BLK1)</b>		Prepared: 03/16/2011 Analyzed: 03/19/2011							
Arsenic	0.0150 U	0.0150	mg/L						
Barium	0.00100 U	0.00100	mg/L						
Cadmium	0.00300 U	0.00300	mg/L						
Chromium	0.00500 U	0.00500	mg/L						
Lead	0.0100 U	0.0100	mg/L						
Selenium	0.0200 U	0.0200	mg/L						
Silver	0.00600 U	0.00600	mg/L						

<b>Blank (L103232-BLK2)</b>		Prepared: 03/16/2011 Analyzed: 03/19/2011							
Arsenic	0.0750 U	0.0750	mg/L						
Barium	0.00500 U	0.00500	mg/L						
Cadmium	0.0150 U	0.0150	mg/L						
Chromium	0.0250 U	0.0250	mg/L						
Lead	0.0500 U	0.0500	mg/L						
Selenium	0.100 U	0.100	mg/L						
Silver	0.0300 U	0.0300	mg/L						

<b>LCS (L103232-BS1)</b>		Prepared: 03/16/2011 Analyzed: 03/19/2011							
Arsenic	9.67	0.0150	mg/L	10.000	96.7	80-120		20	
Barium	4.97	0.00100	mg/L	5.0000	99.4	80-120		20	
Cadmium	0.232	0.00300	mg/L	0.25000	92.8	80-120		20	
Chromium	0.499	0.00500	mg/L	0.50000	99.7	80-120		20	
Lead	2.49	0.0100	mg/L	2.5000	99.6	80-120		20	
Selenium	9.60	0.0200	mg/L	10.000	96.0	80-120		20	
Silver	0.504	0.00600	mg/L	0.50000	101	80-120		20	

**SAMPLE DIGESTION RECORD**

Digestion Batch #: L103139  
 Date/Time Initiated: 3/10/11 1159  
 Date/Time Completed: 3/10/11 1625  
 Analyst: JJ  
 Matrix (circle one): Soil Water Other  
 Method (circle one): 3005A 3010A 3050 200.7 (1994)

Digested / Undigested (circle one)  
 Balance #: 1314  
 Balance Cal Verification:  NA  
 Temp: 96  
 BLOCK 0 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
1011239-01		0.74	50		TO	fine	Brown	Rocks	N/A
L103139-MS1	0.5	0.61	50						
1011239-02		0.77	50						
.03		0.59	50						
.04		0.73	50						
.05		0.78	50			fine	Brown	Rocks	
.06		0.79	50						
.07		0.72	50						
.08		0.66	50						
.09		0.65	50			coarse	Brown	Rocks	
.10		0.58	50						
.11		0.52	50						
.12		0.56	50						
1011240-01		0.54	50			fine	Brown	Rocks	
.02		0.59	50						
.03		0.54	50						
.04		0.73	50						
.05		0.58	50			fine	Brown	Rocks	
.06		0.54	50						
.07		0.65	50						
.08		0.58	50						
L103139 - pit		0.57	50			coarse	Boiling chips		
- 5pm	<input checked="" type="checkbox"/>	0.75	50			fine	dusty pink sand		

JJ 3/10/11

Spiking IDs / Expiration Date:

MS#: 1001843

LCS#: 1100103

Reagent IDs:

HNO<sub>3</sub> J52033  
 HCl J43502  
 H<sub>2</sub>O<sub>2</sub> J52101  
 1:1 HNO<sub>3</sub> 637037-05  
 1:1 HCl \_\_\_\_\_

File ID#: \_\_\_\_\_

Data Review By / Date:

ARM 3/14/11

SAMPLE DIGESTION RECORD

Digestion Batch #: L103232  
 Date/Time Initiated: 3/16/11 1655  
 Date/Time Completed: 3/17/11 1235  
 Analyst: UOL  
 Matrix (circle): Soil Water Other  
 Method (circle one): 3005A 6010A 3050 200.7 (1994)

Digested / Undigested (circle one)  
 Balance #: 814  
 Balance Cal Verification: (Y) NA  
 Temp: 95°  
 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
1011197-05		10	50		TC	NA	CC	NA	NA
06		50	50				CC		
07		50	50				CC		
075	0.500	50	50				CC		
08		50	50				CC		
1011220-05		10	50				CC		
06		10	50				CC		
07		50	50				CC		
08		50	50				CC		
1011240-09		10	50				CC		
10		10	50				CC		
11		50	50				CC		
12		50	50				CC		
13		10	50				CC		
14		50	50				CC		
15		50	50				CC		
16		50	50				CC		
L103232-BLK1		50	50				CC		
BLK2		50	50				CC		
BS1	0.500	50	50				CC		

~~CCN3/16/11  
 JSS 3/17/11~~

Spiking IDs / Expiration Date:

MS#: 102502  
102503

LCS#: 1100240

Reagent IDs:

HNO<sub>3</sub>: J52033  
 HCl \_\_\_\_\_  
 H<sub>2</sub>O<sub>2</sub> \_\_\_\_\_  
 1:1 HNO<sub>3</sub>: FE 2031/11  
 1:1 HCl: 637-229-27 040-20

File ID#: \_\_\_\_\_

Data Review By / Date:

UOL 3/18/11

Start Date: <u>2/7/11</u> Start Time: <u>14:00</u> Analyst: <u>RA</u> SOP: <u>SPI-1311.1</u>	End Date: <u>2/8/11</u> End Time: <u>8:10</u> Analyst: <u>RA</u> Method: <u>B11.1</u>	Tumbler Speed: <u>30 RPM</u> Leachate Batch #: <u>L102071</u> Leachate Page: <u>3 of 65</u> Room Temp. (°C): Start <u>21</u> / Finish <u>21</u> Acceptance Criteria: 23°C ± 2°
Lvl #: <u>1011240-09</u> Client ID#: <u>B28N86-A1</u> pH After 5 Min: <u>8.38</u> pH After Acid/Heat: <u>N/A</u> Extraction Fluid/pH: <u>5.05</u> Sample Wt.(g): <u>100</u> Extract Fluid Vol.(mL): <u>100</u> pH After Extraction: <u>8.17</u>	Initial Filtration Data and Comments: <span style="float: right;"><u>09</u></span> Solids: _____ % / NA  Initial Filtrate Added: _____	
Lvl #: <u>1011240-10</u> Client ID#: <u>B28N86-A2</u> pH After 5 Min: <u>8.38</u> pH After Acid/Heat: <u>N/A</u> Extraction Fluid/pH: <u>5.05</u> Sample Wt.(g): <u>100</u> Extract Fluid Vol.(mL): <u>100</u> pH After Extraction: <u>8.15</u>	Initial Filtration Data and Comments: <span style="float: right;"><u>10</u></span> Solids: _____ % / NA  Initial Filtrate Added: _____	
Lvl #: <u>1011240-11</u> Client ID#: <u>B28N86-B1</u> pH After 5 Min: <u>8.38</u> pH After Acid/Heat: <u>N/A</u> Extraction Fluid/pH: <u>5.05</u> Sample Wt.(g): <u>100 50</u> Extract Fluid Vol.(mL): <u>380 125</u> pH After Extraction: <u>8.25</u>	Initial Filtration Data and Comments: <span style="float: right;"><u>11</u></span> Solids: _____ % / NA  Initial Filtrate Added: _____	
Lvl #: <u>1011240-12</u> Client ID#: <u>B28N86-C1</u> pH After 5 Min: <u>8.38</u> pH After Acid/Heat: <u>N/A</u> Extraction Fluid/pH: <u>5.05</u> Sample Wt.(g): <u>100 50</u> Extract Fluid Vol.(mL): <u>380 250</u> pH After Extraction: <u>8.36</u>	Initial Filtration Data and Comments: <span style="float: right;"><u>12</u></span> Solids: _____ % / NA  Initial Filtrate Added: _____	

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date Jim 3/2/11

TCLP EXTRACTION RECORD  
(NON-VOLATILES)

Start Date: <u>2/7/11</u>	End Date: <u>2/8/11</u>	Tumbler Speed: <u>30 RPM</u>
Start Time: <u>14:30</u>	End Time: <u>8:00</u>	Leachate Batch #: <u>L102071</u>
Analyst: <u>RA</u>	Analyst: <u>RA</u>	Leachate Page: <u>4</u> of <u>65</u>
SOP: <u>SPI-1311.1</u>	Method: <u>1311.1</u>	Room Temp. (°C): Start <u>21</u> / Finish <u>21</u>
Acceptance Criteria: 23°C ± 2°		

LvL #: <u>1011240-13</u>	Initial Filtration Data and Comments: <u>13</u>
Client ID#: <u>B28N90A1</u>	Solids: _____ % / NA
pH After 5 Min: <u>9.31</u>	
pH After Acid/Heat: <u>N/A</u>	
Extraction Fluid/pH: <u>5.05</u>	
Sample Wt.(g): <u>100</u>	
Extract Fluid Vol.(mL): <u>100</u>	
pH After Extraction: <u>8.15</u>	Initial Filtrate Added: _____

LvL #: <u>1011240-14</u>	Initial Filtration Data and Comments: <u>14</u>
Client ID#: <u>B28N90B1</u>	Solids: _____ % / NA
pH After 5 Min: <u>9.31</u>	
pH After Acid/Heat: <u>N/A</u>	
Extraction Fluid/pH: <u>5.05</u>	
Sample Wt.(g): <u>100</u>	
Extract Fluid Vol.(mL): <u>250</u>	
pH After Extraction: <u>8.59</u>	Initial Filtrate Added: _____

LvL #: <u>1011240-15</u>	Initial Filtration Data and Comments: <u>15</u>
Client ID#: <u>B28N90-B2</u>	Solids: _____ % / NA
pH After 5 Min: <u>9.31</u>	
pH After Acid/Heat: <u>N/A</u>	
Extraction Fluid/pH: <u>5.05</u>	
Sample Wt.(g): <u>100</u>	
Extract Fluid Vol.(mL): <u>250</u>	
pH After Extraction: <u>8.37</u>	Initial Filtrate Added: _____

LvL #: <u>1011240-16</u>	Initial Filtration Data and Comments: <u>16</u>
Client ID#: <u>B28N90-C1</u>	Solids: _____ % / NA
pH After 5 Min: <u>9.31</u>	
pH After Acid/Heat: <u>N/A</u>	
Extraction Fluid/pH: <u>5.05</u>	
Sample Wt.(g): <u>100</u>	
Extract Fluid Vol.(mL): <u>500</u>	
pH After Extraction: <u>8.88</u>	Initial Filtrate Added: _____

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date Am 3/2/11

TCLP EXTRACTION RECORD  
(NON-VOLATILES)

LOGBOOK # 906

Start Date: <u>2/7/11</u>	End Date: <u>2/8/11</u>	Tumbler Speed: <u>50</u> RPM
Start Time: <u>4:00</u>	End Time: <u>8:00</u>	Leachate Batch #: <u>L102071</u>
Analyst: <u>RA</u>	Analyst: <u>RA</u>	Leachate Page: <u>5</u> of <u>5</u>
SOP: <u>SPI-1311.1</u>	Method: <u>1311.1</u>	Room Temp. (°C): Start <u>21</u> / Finish <u>21</u>
Acceptance Criteria: 23°C + 2°		

LvL #: <u>L102071</u>	Initial Filtration Data and Comments:
Client ID#: <u>NA</u>	Solids: _____ % / NA
pH After 5 Min: <u>NA</u>	<b>BLANK</b>
pH After Acid/Heat: _____	
Extraction Fluid/pH: _____	
Sample Wt.(g): _____	
Extract Fluid Vol.(mL): <u>500m</u>	
pH After Extraction: <u>NA</u>	Initial Filtrate Added: _____

LvL #: _____	Initial Filtration Data and Comments:
Client ID#: _____	Solids: _____ % / NA
pH After 5 Min: _____	
pH After Acid/Heat: _____	
Extraction Fluid/pH: _____	
Sample Wt.(g): _____	
Extract Fluid Vol.(mL): _____	
pH After Extraction: _____	
Initial Filtrate Added: _____	

LvL #: _____	Initial Filtration Data and Comments:
Client ID#: _____	Solids: _____ % / NA
pH After 5 Min: _____	<b>RA</b>
pH After Acid/Heat: _____	
Extraction Fluid/pH: _____	
Sample Wt.(g): _____	
Extract Fluid Vol.(mL): _____	
pH After Extraction: _____	
Initial Filtrate Added: _____	

LvL #: _____	Initial Filtration Data and Comments:
Client ID#: _____	Solids: _____ % / NA
pH After 5 Min: _____	<u>2/7/11</u>
pH After Acid/Heat: _____	
Extraction Fluid/pH: _____	
Sample Wt.(g): _____	
Extract Fluid Vol.(mL): _____	
pH After Extraction: _____	
Initial Filtrate Added: _____	

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date RA 3/2/11





COLLECTOR <b>BAILY</b>	COMPANY CONTACT RADLOFF, ANNA	TELEPHONE NO. (509) 376-4554	PROJECT COORDINATOR KESSNER, JH	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C7947 (118-B-9): I-001	PROJECT DESIGNATION Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO. RC-195	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>6WS-111</b>	FIELD LOGBOOK NO. <b>HNP-N-385-3/79</b>	ACTUAL SAMPLE DEPTH <b>0'-2.5'</b>	COA 302512ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lionel Laboratory Incorporated	OFFSITE PROPERTY NO. SEE PTR	BILL OF LADING/AIR BILL NO. SEE PTR		<b>796494654051</b>	

MATRIX* A=Air DL=Drum L=Leads DS=Drum S=Solids L=Liquid D=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> 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)	PRESERVATION	None	
		HOLDING TIME	180 Days	
		TYPE OF CONTAINER	P	
		NO. OF CONTAINER(S)	1	
		VOLUME	500mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b> RADIOACTIVE TIE TO: B28N45		SAMPLE ANALYSIS	Special Extraction - D3987 (100 Area RIFS);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28N36	SOIL	11-17-10	1255	✓

1011240

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <b>JR BAILY / JTB</b>	DATE/TIME <b>11-17-10 / 1610</b>	RECEIVED BY/STORED IN <b>J.M. Smith / Jmid</b>	DATE/TIME <b>11-17-10 / 1610</b>	** The laboratory is to analyze pH within 24 hours of receipt. <input type="checkbox"/> <input type="checkbox"/> ** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met. <input type="checkbox"/> <input type="checkbox"/> ** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix. <input type="checkbox"/> <input type="checkbox"/>
RELINQUISHED BY/REMOVED FROM <b>J.M. Smith / Jmid</b>	DATE/TIME <b>11-17-10 / 1610</b>	RECEIVED BY/STORED IN <b>M0413SSue2</b>	DATE/TIME <b>11-17-10 / 1610</b>	
RELINQUISHED BY/REMOVED FROM <b>SSU-R</b>	DATE/TIME <b>NOV 29 2010 1000</b>	RECEIVED BY/STORED IN <b>M.A. White / Maltis</b>	DATE/TIME <b>NOV 29 2010 1000</b>	
RELINQUISHED BY/REMOVED FROM <b>M.A. White / Maltis</b>	DATE/TIME <b>NOV 29 2010 1460</b>	RECEIVED BY/STORED IN <b>FEDEX</b>	DATE/TIME	
RELINQUISHED BY/REMOVED FROM <b>[Signature]</b>	DATE/TIME <b>11-30-10 10940</b>	RECEIVED BY/STORED IN <b>[Signature]</b>	DATE/TIME <b>11-30-10 0940</b>	
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

COLLECTOR <i>J. Bailey</i>	COMPANY CONTACT RADLOFF, ANNA	TELEPHONE NO. (509) 376-4554	PROJECT COORDINATOR KESSNER, JH	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C7R47 (118-B-8); I-002	PROJECT DESIGNATION Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO. RC-195	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <i>CWS-111</i>	FIELD LOGBOOK NO. <i>HNF-N-585-3 679</i>	ACTUAL SAMPLE DEPTH <i>5'-7.5'</i>	COA 302512ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. SEE PTR	BILL OF LADING/AIR BILL NO. <i>7964946540511</i>			

MATRIX* A=Air DL=Drum L=Liquids DS=Drum S=Solids L=Liquid Q=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Waste O=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> 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)	PRESERVATION	None	
		HOLDING TIME	180 Days	
		TYPE OF CONTAINER	P	
		NO. OF CONTAINER(S)	1	
		VOLUME	500mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b> RADIOACTIVE TIE TO: B28N45		SAMPLE ANALYSIS	Special Extraction - D3987 (100 Area RIFS);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28N45	SOIL	11-17-10	1350	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <i>J. Bailey</i>	DATE/TIME <i>11-17-10/1410</i>	RECEIVED BY/STORED IN <i>M. A. White</i>	DATE/TIME <i>11-17-10/1000</i>	** The laboratory is to analyze pH within 24 hours of receipt. <input type="checkbox"/> <input type="checkbox"/> ** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met. <input type="checkbox"/> <input type="checkbox"/> ** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix. <input type="checkbox"/> <input type="checkbox"/>	
RELINQUISHED BY/REMOVED FROM <i>SSU-R</i>	DATE/TIME <i>NOV 25 2010 1000</i>	RECEIVED BY/STORED IN <i>M. A. White</i>	DATE/TIME <i>NOV 29 2010 1000</i>		
RELINQUISHED BY/REMOVED FROM <i>M. A. White</i>	DATE/TIME <i>NOV 29 2010 1400</i>	RECEIVED BY/STORED IN <b>FEDEX</b>	DATE/TIME		
RELINQUISHED BY/REMOVED FROM <i>Ex</i>	DATE/TIME <i>11-30-10/0940</i>	RECEIVED BY/STORED IN <i>J. Smith</i>	DATE/TIME <i>11-30-10 0940</i>		
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

Lionville Laboratory  
**SAMPLE RECEIPT CHECKLIST (SRC)**

CLIENT: WC. Hanford  
 Project/SAF/SOW/Release #: RC-195

Date: 11.30.10

LvL Batch #: 1011240

Sample Custodian: D. Amis

NOTE. EXPLAIN ALL DISCREPANCIES

- |  |   |                                      |   |
|--|---|--------------------------------------|---|
| 1. Samples Hand Delivered or <u>Shipped?</u>   | Carrier <u>FEDEX</u>                    |                                      | Airbill # <u>7964 9465 4051</u>           |
| 2. Custody Seals on coolers or shipping containers intact, signed & dated?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          | <input type="checkbox"/> No Seals         |
| 3. Outside of coolers or shipping containers are free from damage?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          | Comments:                                 |
| 4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible?                  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          |   |
| 5. Samples received <u>cooled</u> or ambient?  | Temp <u>1.8</u> °C                      |                                      | Cooler # <u>GWS-111</u>                   |
| How was the temperature taken?   | <input checked="" type="checkbox"/> IR  | <input type="checkbox"/> Temp. Blank | <input type="checkbox"/> Other (Specify): |
| Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          |   |
| 6. Custody seals on sample containers intact, signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          | <input type="checkbox"/> No Seals         |
| 7. COC (Client & LvL ) signed & dated?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          |   |
| 8. Sample containers are intact?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          |   |
| 9. All samples on COC received?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          |   |
| All samples received on COC?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          |   |
| 10. All sample label information matches COC?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          |   |
| 11. Samples properly preserved? (If #5 is no. then this is no.)  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          |   |
| 12. Samples received within hold times?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          | <input checked="" type="checkbox"/> N/A   |
| Short holds taken to wet lab?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No          |   |
| 13. VOA, TOC, TOX free of headspace?   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No          | <input checked="" type="checkbox"/> N/A   |
| 14. QC stickers placed on bottles designated by client?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No          | <input checked="" type="checkbox"/> 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.) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No          |   |
| 16. Project Manager contacted concerning any discrepancies?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No          | <input checked="" type="checkbox"/> N/A   |
| Person Contacted _____   |   | Date _____                           |   |



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: K2677 Project Manager: Joan Kessner	Reported: 03/16/2011 09:03
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**Analytical Report for Wet Chemistry**

<b>Sample ID</b>	<b>Laboratory ID</b>	<b>Matrix</b>	<b>Date Sampled</b>	<b>Date Received</b>
B28N86-1	1011240-01	Soil	11/17/2010 12:55	11/30/2010 09:40
B28N86-2	1011240-02	Soil	11/17/2010 12:55	11/30/2010 09:40
B28N86-3	1011240-03	Soil	11/17/2010 12:55	11/30/2010 09:40
B28N86-4	1011240-04	Soil	11/17/2010 12:55	11/30/2010 09:40
B28N90-1	1011240-05	Soil	11/17/2010 13:50	11/30/2010 09:40
B28N90-2	1011240-06	Soil	11/17/2010 13:50	11/30/2010 09:40
B28N90-3	1011240-07	Soil	11/17/2010 13:50	11/30/2010 09:40
B28N90-4	1011240-08	Soil	11/17/2010 13:50	11/30/2010 09:40
B28N86-A1	1011240-09	Leachate	11/17/2010 12:55	11/30/2010 09:40
B28N86-A2	1011240-10	Leachate	11/17/2010 12:55	11/30/2010 09:40
B28N86-B1	1011240-11	Leachate	11/17/2010 12:55	11/30/2010 09:40
B28N86-C1	1011240-12	Leachate	11/17/2010 12:55	11/30/2010 09:40
B28N90-A1	1011240-13	Leachate	11/17/2010 13:50	11/30/2010 09:40
B28N90-B1	1011240-14	Leachate	11/17/2010 13:50	11/30/2010 09:40
B28N90-B2	1011240-15	Leachate	11/17/2010 13:50	11/30/2010 09:40
B28N90-C1	1011240-16	Leachate	11/17/2010 13:50	11/30/2010 09:40

## Case Narrative

**Client:** WC-HANFORD RC-195 K2677  
**LVL#:** 1011240

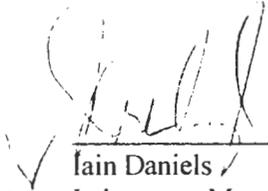
**Date Received:** 11-30-10

### INORGANIC NARRATIVE

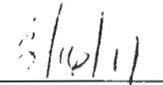
1. This narrative covers the analyses of 8 soil and 8 leachate samples.
2. The samples were prepared using the client prescribed leaching procedure and analyzed in accordance with the methods indicated on the data summary report.

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 ( $\text{Cr}^{6+}$ ) 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 with the exception of L102388-BS2 Insoluble  $\text{Cr}^{6+}$  that was above the 80-120% control limits at 129% however the associated sample results were below the limit of quantitation.
6. The matrix spike recoveries 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

njp11-240

  
\_\_\_\_\_  
Date



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WC-Hanford, Inc.  
2620 Fermi Avenue  
Richland WA, 99354

Project: RC-195  
Project Number: K2677  
Project Manager: Joan Kessner

Reported:  
03/16/2011 09:03

### 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.
- 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
- 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: K2677 Project Manager: Joan Kessner	Reported: 03/16/2011 09:03
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**Wet Chemistry  
 Lionville Laboratory**

Analyte	Result and Qualifier	LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
<b>B28N86-1 (1011240-01) Soil</b>									
%Solids	95.0	0.1	0.1	% by Weight	1	L012083	12/06/2010	12/06/2010	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.53	mg/kg dry	1	L102386	02/25/2011	02/25/2011	ISW846 7196A
<b>B28N86-2 (1011240-02) Soil</b>									
%Solids	95.0	0.1	0.1	% by Weight	1	L012083	12/06/2010	12/06/2010	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.53	mg/kg dry	1	L102388	02/26/2011	02/28/2011	ISW846 7196A
<b>B28N86-3 (1011240-03) Soil</b>									
%Solids	95.0	0.1	0.1	% by Weight	1	L012083	12/06/2010	12/06/2010	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.53	mg/kg dry	1	L102388	02/26/2011	02/28/2011	ISW846 7196A
<b>B28N86-4 (1011240-04) Soil</b>									
%Solids	95.0	0.1	0.1	% by Weight	1	L012083	12/06/2010	12/06/2010	SM2540G
Hexavalent Chromium	0.21 U	0.21	0.53	mg/kg dry	1	L102388	02/26/2011	02/28/2011	ISW846 7196A
<b>B28N90-1 (1011240-05) Soil</b>									
%Solids	91.8	0.1	0.1	% by Weight	1	L012083	12/06/2010	12/06/2010	SM2540G
Hexavalent Chromium	0.22 U	0.22	0.54	mg/kg dry	1	L102388	02/26/2011	02/28/2011	ISW846 7196A
<b>B28N90-2 (1011240-06) Soil</b>									
%Solids	91.8	0.1	0.1	% by Weight	1	L012083	12/06/2010	12/06/2010	SM2540G
Hexavalent Chromium	0.22 B	0.22	0.54	mg/kg dry	1	L102388	02/26/2011	02/28/2011	ISW846 7196A
<b>B28N90-3 (1011240-07) Soil</b>									
%Solids	91.8	0.1	0.1	% by Weight	1	L012083	12/06/2010	12/06/2010	SM2540G
Hexavalent Chromium	0.22 U	0.22	0.54	mg/kg dry	1	L102388	02/26/2011	02/28/2011	ISW846 7196A



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 Richland WA, 99354

Project: RC-195  
 Project Number: K2677  
 Project Manager: Joan Kessner

Reported:  
 03/16/2011 09:03

**Wet Chemistry  
 Lionville Laboratory**

Analyte	Result and Qualifier	LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
<b>B28N90-4 (1011240-08) Soil</b>									
%Solids	91.8	0.1	0.1	% by Weight	1	L102083	12/06/2010	12/06/2010	SM2540G
Hexavalent Chromium	0.22 U	0.22	0.54	mg/kg dry	1	L102388	02/26/2011	02/28/2011	ISW846 7196A
<b>B28N86-A1 (1011240-09) Leachate</b>									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L102125	02/09/2011	02/09/2011	ISW846 7196A
<b>B28N86-A2 (1011240-10) Leachate</b>									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L102125	02/09/2011	02/09/2011	ISW846 7196A
<b>B28N86-B1 (1011240-11) Leachate</b>									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L102125	02/09/2011	02/09/2011	ISW846 7196A
<b>B28N86-C1 (1011240-12) Leachate</b>									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L102125	02/09/2011	02/09/2011	ISW846 7196A
<b>B28N90-A1 (1011240-13) Leachate</b>									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L102125	02/09/2011	02/09/2011	ISW846 7196A
<b>B28N90-B1 (1011240-14) Leachate</b>									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L102125	02/09/2011	02/09/2011	ISW846 7196A
<b>B28N90-B2 (1011240-15) Leachate</b>									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L102125	02/09/2011	02/09/2011	ISW846 7196A
<b>B28N90-C1 (1011240-16) Leachate</b>									
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L	1	L102125	02/09/2011	02/09/2011	ISW846 7196A



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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2677 Project Manager: Joan Kessner	Reported: 03/16/2011 09:03
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**Wet Chemistry - Quality Control**  
**Lionville Laboratory**

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch L012083 - % Solids</b>										
<b>Duplicate (L012083-DUP8)</b>		<b>Source: 1011240-01</b>			<b>Prepared &amp; Analyzed: 12/06/2010</b>					
%Solids	94.9	0.1	0.1	% by Weight		95.0			0.08	20
<b>Batch L102125 - Default Prep GenChem</b>										
<b>Blank (L102125-BLK1)</b>		<b>Prepared &amp; Analyzed: 02/09/2011</b>								
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L						
<b>Blank (L102125-BLK2)</b>		<b>Prepared &amp; Analyzed: 02/09/2011</b>								
Hexavalent Chromium	0.01 U	0.01	0.02	mg/L						
<b>LCS (L102125-BS1)</b>		<b>Prepared &amp; Analyzed: 02/09/2011</b>								
Hexavalent Chromium	1.00	0.01	0.02	mg/L	1.0000		100	90-110		
<b>Matrix Spike (L102125-MS1)</b>		<b>Source: 1011240-16</b>			<b>Prepared &amp; Analyzed: 02/09/2011</b>					
Hexavalent Chromium	1.05	0.01	0.02	mg/L	1.0000	0.01 U	105	75-125		
<b>Batch L102386 - SW 3060A</b>										
<b>Blank (L102386-BLK1)</b>		<b>Prepared &amp; Analyzed: 02/25/2011</b>								
Hexavalent Chromium	0.20 U	0.20	0.50	mg/kg wet						
<b>LCS (L102386-BS1)</b>		<b>Prepared &amp; Analyzed: 02/25/2011</b>								
Hexavalent Chromium	3.96	0.20	0.50	mg/kg wet	4.0000		99	80-120		
<b>LCS (L102386-BS2)</b>		<b>Prepared &amp; Analyzed: 02/25/2011</b>								
Hexavalent Chromium	1010 D	20.0	50.0	mg/kg wet	978.88		103	80-120		



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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2677 Project Manager: Joan Kessner	Reported: 03/16/2011 09:03
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**Wet Chemistry - Quality Control**  
**Lionville Laboratory**

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
<b>Batch L102388 - SW 3060A</b>										
<b>Blank (L102388-BLK1)</b>					Prepared: 02/26/2011 Analyzed: 02/28/2011					
Hexavalent Chromium	0.20 U	0.20	0.50	mg/kg wet						
<b>LCS (L102388-BS1)</b>					Prepared: 02/26/2011 Analyzed: 02/28/2011					
Hexavalent Chromium	3.77	0.20	0.50	mg/kg wet	4.0000		94	80-120		
<b>LCS (L102388-BS2)</b>					Prepared: 02/26/2011 Analyzed: 02/28/2011					
Hexavalent Chromium	1260 D	20.0	50.0	mg/kg wet	972.44		129*	80-120		
<b>Matrix Spike (L102388-MS1)</b>					Source: 1011240-05 Prepared: 02/26/2011 Analyzed: 02/28/2011					
Hexavalent Chromium	3.95	0.22	0.54	mg/kg dry	4.3556	0.22 U	91	75-125		
<b>Matrix Spike (L102388-MS2)</b>					Source: 1011240-05 Prepared: 02/26/2011 Analyzed: 02/28/2011					
Hexavalent Chromium	1080 D	21.8	54.4	mg/kg dry	1122.0	0.22 U	96	75-125		





CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-195-512	PAGE 1 OF 1
COLLECTOR <i>PAILEY</i>	COMPANY CONTACT RADLOFF, ANNA	TELEPHONE NO. (509) 376-4554	PROJECT COORDINATOR KESSNER, JH	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C7847 (118-B-8); I-001	PROJECT DESIGNATION Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO. RC-195	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <i>6WS-111</i>	FIELD LOGBOOK NO. <i>HNP-N-385-3/79</i>	ACTUAL SAMPLE DEPTH <i>0'-2.5'</i>	COA 302512ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. SEE PTR	BILL OF LADING/AIR BILL NO. <i>796494654051</i>			

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	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> 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)	PRESERVATION	None
		HOLDING TIME	180 Days
		TYPE OF CONTAINER	P
		NO. OF CONTAINER(S)	1
		VOLUME	500mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b> RADIOACTIVE TIE TO: B28N45	SAMPLE ANALYSIS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B28N86	SOIL	11-17-10	1255 ✓

*1011240*

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>JRBAIRD/TEB</i>	DATE/TIME <i>11-17-10/1410</i>	RECEIVED BY/STORED IN <i>J.M. Smith</i>	DATE/TIME <i>11-17-10/1410</i>	** The laboratory is to analyze pH within 24 hours of receipt. <input type="checkbox"/> <input type="checkbox"/> ** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met. <input type="checkbox"/> <input type="checkbox"/> ** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix. <input type="checkbox"/> <input type="checkbox"/>
RELINQUISHED BY/REMOVED FROM <i>J.M. Smith</i>	DATE/TIME <i>11-17-10/1410</i>	RECEIVED BY/STORED IN <i>M. A. White</i>	DATE/TIME <i>11-17-10/1410</i>	
RELINQUISHED BY/REMOVED FROM <i>SSC-RZ</i>	DATE/TIME <i>NOV 29 2010 1000</i>	RECEIVED BY/STORED IN <i>M. A. White</i>	DATE/TIME <i>NOV 29 2010 1000</i>	
RELINQUISHED BY/REMOVED FROM <i>M. A. White</i>	DATE/TIME <i>NOV 29 2010 1400</i>	RECEIVED BY/STORED IN <b>FEDEX</b>	DATE/TIME	
RELINQUISHED BY/REMOVED FROM <i>FEDEX</i>	DATE/TIME <i>11-30-10 10940</i>	RECEIVED BY/STORED IN <i>J. Smith</i>	DATE/TIME <i>11-30-10 0940</i>	
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

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-195-517	PAGE 1 OF 1
COLLECTOR <i>J. Bailey</i>	COMPANY CONTACT RADLOFF, ANNA	TELEPHONE NO. (509) 376-4554	PROJECT COORDINATOR KESSNER, JH	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C7847 (11E-B-8); I-002	PROJECT DESIGNATION Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO. RC-195	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <i>GWS-111</i>	FIELD LOGBOOK NO. <i>HNF-A-585-3 879</i>	ACTUAL SAMPLE DEPTH <i>5'-7.5'</i>	COA 302512ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lienville Laboratory Incorporated	OFFSITE PROPERTY NO. SEE PTR	BILL OF LADING/AIR BILL NO. <i>7964946540511</i>			

MATRIX* A=Air DL=Drum L=Liquid DS=Drum S=Solid L=Liquid P=Plastic S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> 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)	PRESERVATION	None	
		HOLDING TIME	180 Days	
		TYPE OF CONTAINER	P	
		NO. OF CONTAINER(S)	1	
		VOLUME	500mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b> RADIOACTIVE TIE TO: B28N45	SAMPLE ANALYSIS	Special Extraction - D3987 (100 Area RIFS);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B28N90	SOIL	11-17-10	1350	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>J. Bailey</i>	DATE/TIME <i>11-17-10/1410</i>	RECEIVED BY/STORED IN <i>M. A. White</i>	DATE/TIME <i>11-17-10/1400</i>	** The laboratory is to analyze pH within 24 hours of receipt. <input type="checkbox"/> <input type="checkbox"/> ** The RCCC acknowledges that the analytical holding time for Nitrate, Nitrite, and Phosphate by EPA methods 300.0 or 9056 will not be met. <input type="checkbox"/> <input type="checkbox"/> ** Physical Properties laboratory: Conduct the hydraulic conductivity test (ASTM 5084 or 2434) as appropriate to the sample matrix. <input type="checkbox"/> <input type="checkbox"/>
RELINQUISHED BY/REMOVED FROM <i>SSU-RZ</i>	DATE/TIME <i>NOV 23 2010 1000</i>	RECEIVED BY/STORED IN <i>M. A. White</i>	DATE/TIME <i>NOV 29 2010 1000</i>	
RELINQUISHED BY/REMOVED FROM <i>M. A. White</i>	DATE/TIME <i>NOV 29 2010 1400</i>	RECEIVED BY/STORED IN <b>FEDEX</b>	DATE/TIME	
RELINQUISHED BY/REMOVED FROM <i>FEDEX</i>	DATE/TIME <i>11-30-10/0940</i>	RECEIVED BY/STORED IN <i>M. A. White</i>	DATE/TIME <i>11-30-10 0940</i>	
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

Lionville Laboratory  
 SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC. Hartford  
 Project/SAF/SOW/Release #: RC-195

Date: 11.30.10

LvL Batch #: 1011240

Sample Custodian: D. Amis

NOTE: EXPLAIN ALL DISCREPANCIES

- |  |   |   |
|--|---|---|
| 1. Samples Hand Delivered or <u>Shipped?</u>   | Carrier <u>FEDEX</u>  | Airbill # <u>7964 9465 4051</u>           |
| 2. Custody Seals on coolers or shipping containers intact, signed & dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         | <input type="checkbox"/> No Seals         |
| 3. Outside of coolers or shipping containers are free from damage?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         | Comments:                                 |
| 4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible?                  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         |   |
| 5. Samples received <u>cooled</u> or ambient?  | Temp <u>1.8</u> °C  | Cooler # <u>GWS-111</u>                   |
| How was the temperature taken?   | <input checked="" type="checkbox"/> IR <input type="checkbox"/> Temp. Blank | <input type="checkbox"/> Other (Specify): |
| Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         |   |
| 6. Custody seals on sample containers intact, signed and dated?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         | <input type="checkbox"/> No Seals         |
| 7. COC (Client & LvL ) signed & dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         |   |
| 8. Sample containers are intact?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         |   |
| 9. All samples on COC received?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         |   |
| All samples received on COC?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         |   |
| 10. All sample label information matches COC?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         |   |
| 11. Samples properly preserved? (If #5 is no, then this is no.)  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         |   |
| 12. Samples received within hold times?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         | <input type="checkbox"/> N/A              |
| Short holds taken to wet lab?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         | <input type="checkbox"/> N/A              |
| 13. VOA, TOC, TOX free of headspace?   | <input type="checkbox"/> Yes <input type="checkbox"/> No                    | <input type="checkbox"/> N/A              |
| 14. QC stickers placed on bottles designated by client?  | <input type="checkbox"/> Yes <input type="checkbox"/> No                    | <input type="checkbox"/> 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.) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No         |   |
| 16. Project Manager contacted concerning any discrepancies?  | <input type="checkbox"/> Yes <input type="checkbox"/> No                    | <input type="checkbox"/> N/A              |
| Person Contacted _____   | Date _____  |   |