0095722

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 K2463 SAF-RC-195

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: C7843 (116-C-5); I-002

RECEIVED
APR 21 2011
EDMC

21 March 2011

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

RECEIVED
APR 2011

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 #	1010081
SDG #	K2463 SPEC EXT
SAF #	RC-195
Date Received	10/20/10
# 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

WC-Hanford, Inc.	Project: RC-195	
2620 Fermi Avenue	Project Number: K2463	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	03/25/2011 16:00

Analytical Report for Wet Chemistry

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B27MY0-1	1010081-01	Soil	09/17/2010 08:25	10/20/2010 10:10
B27MY0-2	1010081-02	Soil	09/17/2010 08:25	10/20/2010 10:10
B27MY0-3	1010081-03	Soil	09/17/2010 08:25	10/20/2010 10:10
B27MY0-4	1010081-04	Soil	09/17/2010 08:25	10/20/2010 10:10
B27MY0-A1	1010081-05	Leachate	09/17/2010 08:25	10/20/2010 10:10
B27MY0-B1	1010081-06	Leachate	09/17/2010 08:25	10/20/2010 10:10
B27MY0-B2	1010081-07	Leachate	09/17/2010 08:25	10/20/2010 10:10
B27MY0-C1	1010081-08	Leachate	09/17/2010 08:25	10/20/2010 10:10

Case Narrative

Client: WC-HANFORD RC-195 K2463
LVL#: 1010081 **Date Received:** 10-20-10

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 the leachate samples as analyses were performed within 24 hours of the completion of the filtering step of the preparation procedure however analysis for total Hexavalent Chromium (Cr^{6+}) was past hold.

4. The method blanks were within the method criteria.

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

6. The matrix spike recoveries were within the 75-125% control limits.

7. The replicate analysis was within the 20% Relative Percent Difference.

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

3/27/11
Date

jes\i10-081

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 8 pages.

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

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2463 Project Manager: Joan Kessner	**Reported:** 03/25/2011 16:00

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

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2463 Project Manager: Joan Kessner	**Reported:** 03/25/2011 16:00

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier		LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
B27MY0-1 (1010081-01) Soil										
%Solids	**93.1**		0.1	0.1	% by Weight	1	L010312	10/21/2010	10/21/2010	SM2540G
Hexavalent Chromium	0.21	U	0.21	0.54	mg/kg dry	1	L010375	10/26/2010	10/26/2010	SW846 7196A
B27MY0-2 (1010081-02) Soil										
%Solids	**93.1**		0.1	0.1	% by Weight	1	L010312	10/21/2010	10/21/2010	SM2540G
Hexavalent Chromium	0.21	U	0.21	0.54	mg/kg dry	1	L010375	10/26/2010	10/26/2010	SW846 7196A
B27MY0-3 (1010081-03) Soil										
%Solids	**93.1**		0.1	0.1	% by Weight	1	L010312	10/21/2010	10/21/2010	SM2540G
Hexavalent Chromium	0.21	U	0.21	0.54	mg/kg dry	1	L010375	10/26/2010	10/26/2010	SW846 7196A
B27MY0-4 (1010081-04) Soil										
%Solids	**93.1**		0.1	0.1	% by Weight	1	L010312	10/21/2010	10/21/2010	SM2540G
Hexavalent Chromium	0.21	U	0.21	0.54	mg/kg dry	1	L010375	10/26/2010	10/26/2010	SW846 7196A
B27MY0-A1 (1010081-05) Leachate										
Hexavalent Chromium	0.01	U	0.01	0.02	mg/L	1	L011257	11/15/2010	11/15/2010	SW846 7196A
B27MY0-B1 (1010081-06) Leachate										
Hexavalent Chromium	0.01	U	0.01	0.02	mg/L	1	L011257	11/15/2010	11/15/2010	SW846 7196A
B27MY0-B2 (1010081-07) Leachate										
Hexavalent Chromium	0.01	U	0.01	0.02	mg/L	1	L011257	11/15/2010	11/15/2010	SW846 7196A
B27MY0-C1 (1010081-08) Leachate										
Hexavalent Chromium	0.01	U	0.01	0.02	mg/L	1	L011257	11/15/2010	11/15/2010	SW846 7196A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2463 Project Manager: Joan Kessner	**Reported:** 03/25/2011 16:00

Wet Chemistry - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L010312 - % Solids											
Duplicate (L010312-DUP1)		**Source: 1010081-01**			Prepared & Analyzed: 10/21/2010						
%Solids	92.9		0.1	0.1	% by Weight		93.1			0.2	20
Batch L010375 - NO PREP											
Blank (L010375-BLK1)					Prepared & Analyzed: 10/26/2010						
Hexavalent Chromium	0.20	U	0.20	0.50	mg/kg wet						
LCS (L010375-BS1)					Prepared & Analyzed: 10/26/2010						
Hexavalent Chromium	4.07		0.20	0.50	mg/kg wet	4.0000		102	80-120		
LCS (L010375-BS2)					Prepared & Analyzed: 10/26/2010						
Hexavalent Chromium	1110	D	20.0	50.0	mg/kg wet	1178.5		94	80-120		
Duplicate (L010375-DUP5)		**Source: 1010081-01**			Prepared & Analyzed: 10/26/2010						
Hexavalent Chromium	0.21	U	0.21	0.54	mg/kg dry		0.21 U				20
Matrix Spike (L010375-MS9)		**Source: 1010081-01**			Prepared & Analyzed: 10/26/2010						
Hexavalent Chromium	4.46		0.21	0.54	mg/kg dry	4.2986	0.21 U	104	75-125		
Matrix Spike (L010375-MSA)		**Source: 1010081-01**			Prepared & Analyzed: 10/26/2010						
Hexavalent Chromium	1030	D	21.5	53.7	mg/kg dry	872.01	0.21 U	119	75-125		
Batch L011257 - Default Prep GenChem											
Blank (L011257-BLK1)					Prepared & Analyzed: 11/15/2010						
Hexavalent Chromium	0.01	U	0.01	0.02	mg/L						

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WC-Hanford, Inc.	Project: RC-195	
2620 Fermi Avenue	Project Number: K2463	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	03/25/2011 16:00

Wet Chemistry - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L011257 - Default Prep GenChem										
LCS (L011257-BS1)				Prepared & Analyzed: 11/15/2010						
Hexavalent Chromium	1.01	0.01	0.02	mg/L	1.0000		101	90-110		

Lionville Laboratory Use Only: 1010081

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI Lionville Laboratory Inc.

Client: WC Hanford SAF# RC-195

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: O. JOHNSON

QC: SA/SW Del: Std TAT: 30

Date Rec'd: 10/20/10 (10/20/10) Date Due:

Refrigerator #							A				LEACHATES					
#/Type Container	~~Liquid~~ Solid						2									
							1P									
Volume							500									
Preservatives							—									
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb		SPSE EXT		INORG: Metal	CN						
		Lionville Laboratory Use Only														

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected															
01	B27MY0-1	/	/	SOIL	9/17/10	0825					X		X								
02	-2										X		X								
03	-3										X		X								
04	-4										X		X								
05	B27MY0-A1														X	X	X				
06	-B1														X	X	X				
07	-B2														X	X	X				
08	-C1														X	X	X				

Special Instructions:

Special Instructions:
10/20/10
1. quadruplicate analyses for parent sample B27MY0
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	10/20/10	10:10

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

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

Date: 10/20/10

LvL Batch #: 1010081

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FED EX		Airbill # 4029 5262 0596
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 4-9	°C	Cooler # N/A
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	No original COC Rec'd
11. Samples properly preserved? (If #5 is no. then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes 10/20/10	☑ No	Crit rec'd out of hold
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A 05:10/20/10
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 _____	

K2463

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-195-265 | PAGE 1 OF 1

COLLECTOR: Garcia, Cano	COMPANY CONTACT: DALE DYEKMAN	TELEPHONE NO.: (509) 373-2530	PROJECT COORDINATOR: KESSNER, JH
PRICE CODE: 8N	DATA TURNAROUND: 45 Days / 45 Days		
SAMPLING LOCATION: C7843 [116-C-5]; I-002	PROJECT DESIGNATION: Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud	SAF NO.: RC-195	AIR QUALITY ☐
ICE CHEST NO.: GWS-230	FIELD LOGBOOK NO.: HNGW-587.3.PG61	ACTUAL SAMPLE DEPTH: 22'	COA: 302512ES10
METHOD OF SHIPMENT: FEDERAL EXPRESS			
SHIPPED TO: Lionville Laboratory Incorporated	OFFSITE PROPERTY NO.: SEE PTR	BILL OF LADING/AIR BILL NO.: SEE PTR 7942650870 64	

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: B27FF6

PRESERVATION	None
HOLDING TIME	180 Days
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Special Extraction - CDHR7 (180 Area RRS);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B27MY0	SOIL	9/17/10	0825	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Pablo Cano	9/17/10 / 1515	MO-413 SSU-R2	9/17/10 / 1515
SSU-R2	SEP 21 2010 1539	DW Brothers	SEP 21 2010 8
DW Brothers	SEP 21 2010	FEDEX	

SPECIAL INSTRUCTIONS

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

ORIGINAL

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

FIELD SAMPLE COPY

A-6003-618(01/06)

09/21/2010 10:30 FAX 3093732010 008/008

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

WC-Hanford, Inc.	Project: RC-195	
2620 Fermi Avenue	Project Number: K2463	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	11/24/2010 09:15

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B27MY0-1	1010081-01	Soil	09/17/2010 08:25	10/20/2010 10:10
B27MY0-2	1010081-02	Soil	09/17/2010 08:25	10/20/2010 10:10
B27MY0-3	1010081-03	Soil	09/17/2010 08:25	10/20/2010 10:10
B27MY0-4	1010081-04	Soil	09/17/2010 08:25	10/20/2010 10:10
B27MY0-A1	1010081-05	Leachate	09/17/2010 08:25	10/20/2010 10:10
B27MY0-B1	1010081-06	Leachate	09/17/2010 08:25	10/20/2010 10:10
B27MY0-B2	1010081-07	Leachate	09/17/2010 08:25	10/20/2010 10:10
B27MY0-C1	1010081-08	Leachate	09/17/2010 08:25	10/20/2010 10:10

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

Case Narrative

Client: WC-HANFORD RC-195
LVL#: 1010081
SDG/SAF#: K2463/RC-195

W.O.#: 60049-001-001-0001-00
Date Received: 10-20-10

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 analysis of 1 soil sample and 1 TCLP leachate sample analyzed in quadruplicate.

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

   The TCLP leachate samples B27MY0-B1, B27MY0-B2, B27MY0-C2, were run and reported with 6-fold dilutions due to sample matrix. TCLP leachate sample B27MY0-A1 was prepared with a 5-fold dilution due to insufficient 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 35 pages.

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

10. The matrix spike (MS) recoveries for 4 analytes were outside the 75-125% control limits.

11. For analytes where the ICP MS is out-of-control, a post-digestion MS (PDS) and serial dilution are performed. A PDS was prepared at meaningful concentration level for the following analytes:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
B27MY0-1	Chromium	100	91.7
	Lead	100	93.4
	Selenium	100	89.6
	Silver	100	88.0

12. All duplicate analyses were within the 20% Relative Percent Difference (RPD) control limits. The ± 20% RPD control limit applies to sample results greater than ten times the MDL.

13. All TCLP leachate matrix spike analyses were performed on WC-Hanford sample B27356-C2, LvL#: 1009159 within the same digestion batch. Please refer to this package for the associated QC forms.

14. 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.

15. 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.

16. 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.

12/11/10

Iain Daniels
Laboratory Manager
Lionville Laboratory

Date

alm/10-081specext

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

WC-Hanford, Inc.	Project: RC-195	
2620 Fermi Avenue	Project Number: K2463	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	11/24/2010 09:15

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
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Phone: 610-280-3000
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WC-Hanford, Inc.	Project: RC-195	
2620 Fermi Avenue	Project Number: K2463	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	11/24/2010 09:15

B27MY0-1

1010081-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**1.69**		0.911	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Barium	**76.1**		0.455	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Cadmium	**0.0958**	B	0.228	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Chromium	**14.9**		0.911	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Lead	**3.15**		0.911	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Selenium	**0.288**	B	0.911	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Silver	0.911	U	0.911	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B

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WC-Hanford, Inc.	Project: RC-195	
2620 Fermi Avenue	Project Number: K2463	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	11/24/2010 09:15

B27MY0-2

1010081-02 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**1.52**		0.911	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Barium	**70.8**		0.455	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Cadmium	**0.0965**	B	0.228	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Chromium	**9.55**		0.911	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Lead	**2.96**		0.911	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Selenium	**0.350**	B	0.911	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Silver	0.911	U	0.911	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B

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WC-Hanford, Inc.	Project: RC-195	
2620 Fermi Avenue	Project Number: K2463	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	11/24/2010 09:15

B27MY0-3
1010081-03 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**1.42**		0.896	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Barium	**85.8**		0.448	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Cadmium	**0.106**	B	0.224	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Chromium	**17.6**		0.896	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Lead	**3.58**		0.896	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Selenium	**0.278**	B	0.896	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Silver	0.896	U	0.896	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2463 Project Manager: Joan Kessner	**Reported:** 11/24/2010 09:15

B27MY0-4

1010081-04 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Arsenic	**1.62**		0.790	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Barium	**90.2**		0.395	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Cadmium	**0.0891**	B	0.198	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Chromium	**11.9**		0.790	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Lead	**3.25**		0.790	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Selenium	**0.301**	B	0.790	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B
Silver	0.790	U	0.790	mg/kg dry	1	L011234	11/15/2010	11/19/2010	6010B

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WC-Hanford, Inc.	Project: RC-195	
2620 Fermi Avenue	Project Number: K2463	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	11/24/2010 09:15

B27MY0-A1

1010081-05 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0750	U	0.0750	mg/L	1	L011240	11/16/2010	11/22/2010	6010
Barium	**0.121**		0.00500	mg/L	1	L011240	11/16/2010	11/22/2010	6010
Cadmium	0.0150	U	0.0150	mg/L	1	L011240	11/16/2010	11/22/2010	6010
Chromium	**0.00782**	B	0.0250	mg/L	1	L011240	11/16/2010	11/22/2010	6010
Lead	0.0500	U	0.0500	mg/L	1	L011240	11/16/2010	11/22/2010	6010
Selenium	0.100	U	0.100	mg/L	1	L011240	11/16/2010	11/22/2010	6010
Silver	0.0300	U	0.0300	mg/L	1	L011240	11/16/2010	11/22/2010	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2463 Project Manager: Joan Kessner	**Reported:** 11/24/2010 09:15

B27MY0-B1

1010081-06 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0900	U	0.0900	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Barium	**0.0682**		0.00600	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Cadmium	0.0180	U	0.0180	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Chromium	0.0300	U	0.0300	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Lead	0.0600	U	0.0600	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Selenium	0.120	U	0.120	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Silver	0.0360	U	0.0360	mg/L	6	L011240	11/16/2010	11/22/2010	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2463 Project Manager: Joan Kessner	**Reported:** 11/24/2010 09:15

B27MY0-B2

1010081-07 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0900	U	0.0900	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Barium	**0.103**		0.00600	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Cadmium	0.0180	U	0.0180	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Chromium	0.0300	U	0.0300	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Lead	0.0600	U	0.0600	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Selenium	0.120	U	0.120	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Silver	0.0360	U	0.0360	mg/L	6	L011240	11/16/2010	11/22/2010	6010

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-195 Project Number: K2463 Project Manager: Joan Kessner	**Reported:** 11/24/2010 09:15

B27MY0-C1

1010081-08 (Leachate)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
TCLP Metals by SW846 1311 6000/7000 series									
Arsenic	0.0900	U	0.0900	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Barium	**0.0667**		0.00600	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Cadmium	0.0180	U	0.0180	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Chromium	0.0300	U	0.0300	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Lead	0.0600	U	0.0600	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Selenium	0.120	U	0.120	mg/L	6	L011240	11/16/2010	11/22/2010	6010
Silver	0.0360	U	0.0360	mg/L	6	L011240	11/16/2010	11/22/2010	6010

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WC-Hanford, Inc.	Project: RC-195	
2620 Fermi Avenue	Project Number: K2463	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	11/24/2010 09:15

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 L011234 - SW 3050B										
Blank (L011234-BLK1)				Prepared: 11/15/2010 Analyzed: 11/17/2010						
Arsenic	0.746	U	0.746	mg/kg wet						
Barium	0.373	U	0.373	mg/kg wet						
Cadmium	0.187	U	0.187	mg/kg wet						
Chromium	0.746	U	0.746	mg/kg wet						
Lead	0.746	U	0.746	mg/kg wet						
Selenium	0.274	B	0.746	mg/kg wet						
Silver	0.746	U	0.746	mg/kg wet						
Duplicate (L011234-DUP1)		**Source: 1010081-01**		Prepared: 11/15/2010 Analyzed: 11/19/2010						
Arsenic	1.77		0.746	mg/kg dry		1.69			4	20
Barium	79.2		0.373	mg/kg dry		76.1			4	20
Cadmium	0.109	B	0.187	mg/kg dry		0.0958			13	20
Chromium	12.5		0.746	mg/kg dry		14.9			18	20
Lead	3.37		0.746	mg/kg dry		3.15			7	20
Selenium	0.746	U	0.746	mg/kg dry		0.288				20
Silver	0.746	U	0.746	mg/kg dry		0.911 U				20
Matrix Spike (L011234-MS1)		**Source: 1010081-01**		Prepared: 11/15/2010 Analyzed: 11/19/2010						
Arsenic	104		0.680	mg/kg dry	136.03	1.69	75	75-125		
Barium	183		0.340	mg/kg dry	136.03	76.1	78	75-125		
Cadmium	2.85		0.170	mg/kg dry	3.4008	0.0958	81	75-125		
Chromium	20.0		0.680	mg/kg dry	13.603	14.9	38*	75-125		
Lead	27.7		0.680	mg/kg dry	34.008	3.15	72*	75-125		
Selenium	97.9		0.680	mg/kg dry	136.03	0.288	72*	75-125		
Silver	2.34		0.680	mg/kg dry	3.4008	0.911 U	69*	75-125		
Reference (L011234-SRM1)				Prepared: 11/15/2010 Analyzed: 11/17/2010						
Arsenic	117		2.59	mg/kg wet	113.85		103	85-115		
Barium	297		1.29	mg/kg wet	298.35		99	75.7-124.3		
Cadmium	234		0.647	mg/kg wet	224.09		104	84.9-115.1		
Chromium	82.4		2.59	mg/kg wet	77.590		106	76.8-123.2		
Lead	191		2.59	mg/kg wet	187.62		102	81.5-118.5		
Selenium	188		2.59	mg/kg wet	187.99		100	78.8-121.2		
Silver	85.8		2.59	mg/kg wet	83.960		102	81.9-118.1		

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WC-Hanford, Inc.	Project: RC-195	
2620 Fermi Avenue	Project Number: K2463	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	11/24/2010 09:15

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 L011240 - SW 3010A										
Blank (L011240-BLK1)				Prepared: 11/16/2010 Analyzed: 11/22/2010						
Arsenic	0.0150	U	0.0150	mg/L						
Barium	0.00177		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						
Blank (L011240-BLK3)				Prepared: 11/16/2010 Analyzed: 11/22/2010						
Arsenic	0.0900	U	0.0900	mg/L						
Barium	0.0120		0.00600	mg/L						
Cadmium	0.0180	U	0.0180	mg/L						
Chromium	0.0300	U	0.0300	mg/L						
Lead	0.0600	U	0.0600	mg/L						
Selenium	0.120	U	0.120	mg/L						
Silver	0.0360	U	0.0360	mg/L						
LCS (L011240-BS1)				Prepared: 11/16/2010 Analyzed: 11/22/2010						
Arsenic	9.97		0.0150	mg/L	10.000		99.7	80-120		
Barium	4.99		0.00100	mg/L	5.0000		99.7	80-120		
Cadmium	0.244		0.00300	mg/L	0.25000		97.7	80-120		
Chromium	0.495		0.00500	mg/L	0.50000		99.0	80-120		
Lead	2.48		0.0100	mg/L	2.5000		99.4	80-120		
Selenium	9.71		0.0200	mg/L	10.000		97.1	80-120		
Silver	0.494		0.00600	mg/L	0.50000		98.9	80-120		

Lionville Laboratory

Cont'd on p.36 JJ 11/16/10

Logbook #: 837

SAMPLE DIGESTION RECORD

Digestion Batch #: L011234
Date/Time Initiated: 11/16/10 1105
Date/Time Completed: 11/16/10 1615
Analyst: JS
Matrix (circle): Soil Water Other
Method (circle one): 3005A 3010A 3050 200.7 (1994)

Digested / Undigested (circle one)
Balance #: B1
Balance Cal Verification: Y NA
Temp: 98
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
1010081-01		0.59	50		TO	Fine	grey		NA
L011234-Dp1		0.72	50						
-MS1	0.5	0.79	50						
1010081-02		0.59	50						
03		0.60	50						
04		0.68	50						
1011104-01		0.80	50			Fine	Brown		
L011234-Dp2		0.57	50						
-MS2	0.5	0.51	50						
1011104-02		0.54	50			Fine	Brown		
03		0.79	50			fine	Brown	Rocks	
04		0.77	50			Fine	Brown		
1011106-01		0.57	50			coarse	black sand		
-02		0.62	50			fine	Brown		
L011234-Dp3		0.60	50						
-MS3	0.5	0.51	50						
1011106 03		0.66	50			Fine	Brown	Rocks	
04		0.71	50			Fine	Black	Rocks	
05		0.56	50			Fine	Brown	Rocks	
06		0.74	50			Fine	Brown		
1011108-01		0.61	50			sludge	Black	H_2O	
L011234-Dp4		0.52	50						
-MS4	0.5	0.66	50						
1011108 02		0.63	50			sludge	Black	H_2O	
1011104-~~Dp01~~		0.64	50			Fine	Grey		
L011234-Dp5		0.65	50						
-MS5	0.5	0.59	50						

Spiking IDs / Expiration Date:
MS#: S100-04 16
17
18
6077 087.14
LCS#: 1001320

Reagent IDs:
HNO_3 J38034
HCl J38042
H_2O_2 H28000
1:1 HNO_3 637008-03
1:1 HCl

File ID#:

Data Review By / Date:
aem 11/18/10

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Signed\SPI\Metals Digestion log.doc

Page #:

000000015

Lionville Laboratory Cont'd from p. 35 Logbook #: 837

SAMPLE DIGESTION RECORD

Digestion Batch #: L011234
Date/Time Initiated: See p 35
Date/Time Completed:
Analyst: JJS
Matrix (circle): Soil Water Other
Method (circle one): 3005A 3010A 3050 200.7 (1994)

Digested / Undigested (circle one)
Balance #: B14
Balance Cal Verification: Y N/A
Temp: 98
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
L011234-AB10		0.67	50		TO	Coarse	Boiling chips	N/A	N/A
-SRM	*	0.58	50		↓	Fine	dusty pink sand	↓	↓

JJS 11/16/10

Spiking IDs / Expiration Date:
MS# : See p. 36
LCS#: See p. 36

Reagent IDs:
HNO_3
HCl
H_2O_2 See p. 36
1:1 HNO_3
1:1 HCl

File ID#:

Data Review By / Date: 11/18/10

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Signed\SPI\Metals Digestion log.doc

Page #:

00000016

PREPARATION BENCH SHEET

L011234

Lionville Laboratory

Printed: 11/19/2010 7:39:31AM

Matrix: Solid **Prepared using: METALS - SW 3050B** **(No Surrogate)**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1010081-01	6010B As	11/15/2010 15:44	0.59	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
1010081-01	6010B ICP Metals	11/15/2010 15:44	0.59	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
1010081-01	6010B ICP Trace	11/15/2010 15:44	0.59	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
1010081-01	6010B RCRA ICP METALS	11/15/2010 15:44	0.59	50					WC-Hanford, Inc.	
1010081-02	6010B RCRA ICP METALS	11/15/2010 15:44	0.59	50					WC-Hanford, Inc.	
1010081-03	6010B RCRA ICP METALS	11/15/2010 15:44	0.6	50					WC-Hanford, Inc.	
1010081-04	6010B RCRA ICP METALS	11/15/2010 15:44	0.68	50					WC-Hanford, Inc.	
1011104-01	6010B As	11/15/2010 15:44	0.8	50					INL	
1011104-01	6010B ICP Metals	11/15/2010 15:44	0.8	50					INL	Added for BatchQC in: L011234
1011104-01	6010B ICP Trace	11/15/2010 15:44	0.8	50					INL	Added for BatchQC in: L011234
1011104-01	6010B RCRA ICP METALS	11/15/2010 15:44	0.8	50					INL	Added for BatchQC in: L011234
1011104-02	6010B As	11/15/2010 15:44	0.54	50					INL	
1011104-03	6010B As	11/15/2010 15:44	0.79	50					INL	
1011104-04	6010B As	11/15/2010 15:44	0.77	50					INL	
1011106-01	6010B ICP Metals	11/15/2010 15:44	0.57	50					WC-Hanford, Inc.	HSL + B, Mo, Si (no TL)
1011106-02	6010B As	11/15/2010 15:44	0.62	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
1011106-02	6010B ICP Metals	11/15/2010 15:44	0.62	50					WC-Hanford, Inc.	HSL + B, Mo, Si (no TL)
1011106-02	6010B ICP Trace	11/15/2010 15:44	0.62	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
1011106-02	6010B RCRA ICP METALS	11/15/2010 15:44	0.62	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
1011106-03	6010B ICP Metals	11/15/2010 15:44	0.66	50					WC-Hanford, Inc.	HSL + B, Mo, Si (no TL)

Extracts Relinquished By Date

Extracts Received By Date

PREPARATION BENCH SHEET

L011234

Lionville Laboratory

Printed: 11/19/2010 7:39:31AM

Matrix: Solid **Prepared using: METALS - SW 3050B** **(No Surrogate)**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1011106-04	6010B ICP Metals	11/15/2010 15:44	0.71	50					WC-Hanford, Inc.	HSL + B, Mo, Si (no TL)
1011106-05	6010B ICP Metals	11/15/2010 15:44	0.56	50					WC-Hanford, Inc.	HSL + B, Mo, Si (no TL)
1011106-06	6010B ICP Metals	11/15/2010 15:44	0.74	50					WC-Hanford, Inc.	HSL + B, Mo, Si (no TL)
1011108-01	6010B As	11/15/2010 15:44	0.61	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
1011108-01	6010B ICP Metals	11/15/2010 15:44	0.61	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
1011108-01	6010B ICP Trace	11/15/2010 15:44	0.61	50					WC-Hanford, Inc.	HSL + B, Mo, Si (no TL)
1011108-01	6010B RCRA ICP METALS	11/15/2010 15:44	0.61	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
1011108-02	6010B ICP Trace	11/15/2010 15:44	0.63	50					WC-Hanford, Inc.	HSL + B, Mo, Si (no TL)
1011109-01	6010B As	11/15/2010 15:44	0.64	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
1011109-01	6010B ICP Metals	11/15/2010 15:44	0.64	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
1011109-01	6010B ICP Trace	11/15/2010 15:44	0.64	50					WC-Hanford, Inc.	HSL + B, Mo, Si (no TL)
1011109-01	6010B RCRA ICP METALS	11/15/2010 15:44	0.64	50					WC-Hanford, Inc.	Added for BatchQC in: L011234
L011234-BLK1	QC	11/15/2010 15:44	0.67	50						
L011234-BLK2	QC	11/15/2010 15:44	0.67	50						added due to diff. detection limits 1011104
L011234-BLK3	QC	11/15/2010 15:44	0.67	50						added due to diff. detection limits 1011106
L011234-BLK4	QC	11/15/2010 15:44	0.67	50						added due to diff. detection limits 1011108
L011234-BLK5	QC	11/15/2010 15:44	0.67	50						added due to diff. detection limits 1011109
L011234-DUP1	QC	11/15/2010 15:44	0.72	50		1010081-01				
L011234-DUP2	QC	11/15/2010 15:44	0.57	50		1011104-01				
L011234-DUP3	QC	11/15/2010 15:44	0.6	50		1011106-02				

Extracts Relinquished By Date

Extracts Received By Date

PREPARATION BENCH SHEET

L011234

Lionville Laboratory

Printed: 11/19/2010 7:39:31AM

Matrix: Solid **Prepared using: METALS - SW 3050B** **(No Surrogate)**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L011234-DUP4	QC	11/15/2010 15:44	0.52	50		1011108-01				
L011234-DUP5	QC	11/15/2010 15:44	0.65	50		1011109-01				
L011234-MS1	QC	11/15/2010 15:44	0.79	50	1001843	1010081-01	500			
L011234-MS2	QC	11/15/2010 15:44	0.51	50	1001843	1011104-01	500			
L011234-MS3	QC	11/15/2010 15:44	0.51	50	1001843	1011106-02	500			
L011234-MS4	QC	11/15/2010 15:44	0.66	50	1001843	1011108-01	500			
L011234-MS5	QC	11/15/2010 15:44	0.59	50	1001843	1011109-01	500			
L011234-SRM1	QC	11/15/2010 15:44	0.58	50	1001320		580			
L011234-SRM2	QC	11/15/2010 15:44	0.58	50	1001320		580			added due to diff. detection limits 1011104
L011234-SRM3	QC	11/15/2010 15:44	0.58	50	1001320		580			added due to diff. detection limits 1011106
L011234-SRM4	QC	11/15/2010 15:44	0.58	50	1001320		580			added due to diff. detection limits 1011108
L011234-SRM5	QC	11/15/2010 15:44	0.58	50	1001320		580			added due to diff. detection limits 1011109

Extracts Relinquished By Date

Extracts Received By Date

TCLP BENCH SHEET

L011217

Lionville Laboratory

Printed: 11/24/2010 9:06:53AM

Matrix: Solid

Prepared using: WETCHEM - SW 1311

LabID	ClientID	Analysis	Initial (g)	Final (mL)	Start Date Time)	By	pH after 5 min	pH after Acid/Heat	Ext Fluid pH	Rm Temp	End Date Time	pH	Extraction Comments
1010081-08	B27MY0-C1	1311 TCLP, modified	50	250	11/14/2010 07:13	MZ							
L011217-BLK1	Blank	QC	2000	2000	11/14/2010 07:13	MZ							

Leachates Relinquished By Date

Leachates Received By Date

Lionville Laboratory **Logbook #:** 837

SAMPLE DIGESTION RECORD

Digestion Batch #: L011240
Date/Time Initiated: 11/16/10 1145
Date/Time Completed: 11/17/10 1320
Analyst: JJS
Matrix (circle): Soil Water Other
Method (circle one): 3005A 3010A 3050 200.7 (1994)

Digested / Undigested (circle one)
Balance #: N/A
Balance Cal Verification: Y NA
Temp: 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
1009157-05		10	50	<2	TC	N/A	clear/yellow	N/A	N/A
06		50	50	<2			clear/yellow		
07		50	50	<2			clear/yellow		
08		50	50	<2			clear/yellow		
L011240 -MS1	0.5	50	50						
1010081-05		10	50	<2			clear/yellow		
06		50	50	<2			clear/yellow		
07		50	50	<2			clear/yellow		
08		50	50	<2			clear/yellow		
L011240 BLK1		50	50				clear/colorless		
BS1	0.5	50	50				clear/colorless		
+ BLK2		50	50	<2			clear/colorless		
⊕ BLK3		50	50	<2			clear/colorless		

JJS 11/17/10

Spiking IDs / Expiration Date:
MS#: 6077-086-16
087-01

LCS#: 6077-086-16
08
07
09

Reagent IDs:
HNO_3 J38039
HCl
H_2O_2
1:1 HNO_3
1:1 HCl 637-027-08

File ID#:

Data Review By / Date: 11/18/10

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

Page #:

+: Associated with L011038.
⊕: Associated with L011217.

00000821

PREPARATION BENCH SHEET

L011240

Lionville Laboratory

Printed: 11/24/2010 8:50:05AM

Matrix: Solid **Prepared using: METALS - SW 3010A** **(No Surrogate)**

Lab Number	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1009159-05	1311/6010B TCLP RCRA ICP MET	11/16/2010 11:12	10	50					WC-Hanford, Inc.	
1009159-06	1311/6010B TCLP RCRA ICP MET	11/16/2010 11:12	50	50					WC-Hanford, Inc.	
1009159-07	1311/6010B TCLP RCRA ICP MET	11/16/2010 11:12	50	50					WC-Hanford, Inc.	
1009159-08	1311/6010B TCLP RCRA ICP MET	11/16/2010 11:12	50	50					WC-Hanford, Inc.	
1010081-05	1311/6010B TCLP RCRA ICP MET	11/16/2010 11:12	10	50					WC-Hanford, Inc.	
1010081-06	1311/6010B TCLP RCRA ICP MET	11/16/2010 11:12	50	50					WC-Hanford, Inc.	
1010081-07	1311/6010B TCLP RCRA ICP MET	11/16/2010 11:12	50	50					WC-Hanford, Inc.	
1010081-08	1311/6010B TCLP RCRA ICP MET	11/16/2010 11:12	50	50					WC-Hanford, Inc.	
L011240-BLK1	QC	11/16/2010 11:12	50	50						
L011240-BLK2	QC	11/16/2010 11:12	50	50						Associated with L011038.
L011240-BLK3	QC	11/16/2010 11:12	50	50						Associated with L011217.
L011240-BS1	QC	11/16/2010 11:12	50	50	1001841		500			
L011240-MS1	QC	11/16/2010 11:12	50	50	1000502	1009159-08	500			

Extracts Relinquished By Date

Extracts Received By Date

TCLP BENCH SHEET

L011217

Lionville Laboratory

Printed: 12/10/2010 2:18:05AM

Matrix: Solid

Prepared using: WETCHEM - SW 1311

LabID	ClientID	Analysis	Initial (g)	Final (mL)	Start Date Time)	By	pH after 5 min	pH after Acid/Heat	Ext Fluid pH	Rm Temp	End Date Time	pH	Extraction Comments
1007013-28	B26F09-A1	1311 TCLP, modified	100	100	11/14/2010 07:13	MZ	6.15	N/A	SPEC 5.02	21	11/15/10 0700	8.37	
1007013-29	B26F09-A2	1311 TCLP, modified	100	100	11/14/2010 07:13	MZ	6.15	N/A	SPEC 5.02	21	11/15/10 0700	8.61	
1007013-30	B26F09-B1	1311 TCLP, modified	100	250	11/14/2010 07:13	MZ	6.15	N/A	SPEC 5.02	21	11/15/10 0700	8.36	
1007013-31	B26F09-C1	1311 TCLP, modified	100	500	11/14/2010 07:13	MZ	6.15	N/A	SPEC 5.02	21	11/15/10 0700	8.28	
1007013-32	B26F10-A1	1311 TCLP, modified	100	100	11/14/2010 07:13	MZ	6.23	N/A	SPEC 5.02	21	11/15/10 0700	8.47	
1007013-33	B26F10-B1	1311 TCLP, modified	100	250	11/14/2010 07:13	MZ	6.23	N/A	SPEC 5.02	21	11/15/10 0700	8.98	
1007013-34	B26F10-B2	1311 TCLP, modified	100	250	11/14/2010 07:13	MZ	6.23	N/A	SPEC 5.02	21	11/15/10 0700	8.18	
1007013-35	B26F10-C1	1311 TCLP, modified	50	250	11/14/2010 07:13	MZ	6.23	N/A	SPEC 5.02	21	11/15/10 0700	8.3	
1007013-36	B26F11-A1	1311 TCLP, modified	100	100	11/14/2010 07:13	MZ	6.21	N/A	SPEC 5.02	21	11/15/10 0700	8.42	
1007013-37	B26F11-B1	1311 TCLP, modified	100	250	11/14/2010 07:13	MZ	6.21	N/A	SPEC 5.02	21	11/15/10 0700	8.39	
1007013-38	B26F11-C1	1311 TCLP, modified	100	500	11/14/2010 07:13	MZ	6.21	N/A	SPEC 5.02	21	11/15/10 0700	8.2	
1007013-39	B26F11-C2	1311 TCLP, modified	100	500	11/14/2010 07:13	MZ	6.21	N/A	SPEC 5.02	21	11/15/10 0700	8.14	
1007013-40	B26F12-A1	1311 TCLP, modified	100	100	11/14/2010 07:13	MZ	6.89	N/A	SPEC 5.02	21	11/15/10 0700	8.18	
1007013-41	B26F12-B1	1311 TCLP, modified	100	250	11/14/2010 07:13	MZ	6.89	N/A	SPEC 5.02	21	11/15/10 0700	8.9	
1007013-42	B26F12-B2	1311 TCLP, modified	100	250	11/14/2010 07:13	MZ	6.89	N/A	SPEC 5.02	21	11/15/10 0700	8.48	
1007013-43	B26F12-C1	1311 TCLP, modified	100	500	11/14/2010 07:13	MZ	6.89	N/A	SPEC 5.02	21	11/15/10 0700	8.14	
1007013-44	B26F18-A1	1311 TCLP, modified	100	100	11/14/2010 07:13	MZ	7.14	N/A	SPEC 5.02	21	11/15/10 0700	8.39	
1007013-45	B26F18-B1	1311 TCLP, modified	100	250	11/14/2010 07:13	MZ	7.14	N/A	SPEC 5.02	21	11/15/10 0700	8.29	
1007013-46	B26F18-C1	1311 TCLP, modified	100	500	11/14/2010 07:13	MZ	7.14	N/A	SPEC 5.02	21	11/15/10 0700	8.05	
1007013-47	B26F18-C2	1311 TCLP, modified	100	500	11/14/2010 07:13	MZ	7.14	N/A	SPEC 5.02	21	11/15/10 0700	7.95	
1010081-05	B27MY0-A1	1311 TCLP, modified	100	100	11/14/2010 07:13	MZ	7.14	N/A	SPEC 5.02	21	11/15/10 0700	8.47	
1010081-06	B27MY0-B1	1311 TCLP, modified	50	250	11/14/2010 07:13	MZ	7.14	N/A	SPEC 5.02	21	11/15/10 0700	8.45	
1010081-07	B27MY0-B2	1311 TCLP, modified	50	125	11/14/2010 07:13	MZ	7.14	N/A	SPEC 5.02	21	11/15/10 0700	8.29	

Leachates Relinquished By _____ Date _____ Leachates Received By _____ Date _____

TCLP BENCH SHEET

L011217

Lionville Laboratory

Printed: 12/10/2010 2:18:05AM

Matrix: Solid

Prepared using: WETCHEM - SW 1311

LabID	ClientID	Analysis	Initial (g)	Final (mL)	Start Date Time)	By	pH after 5 min	pH after Acid/Heat	Ext Fluid pH	Rm Temp	End Date Time	pH	Extraction Comments
1010081-08	B27MY0-C1	1311 TCLP, modified	50	250	11/14/2010 07:13	MZ	7.14	N/A	SPEC 5.02	21	11/15/10 0700	8.21	
L011217-BLK1	Blank	QC	2000	2000	11/14/2010 07:13	MZ							

Leachates Relinquished By Date

Leachates Received By Date

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 814

Start Date: 11/14/10 Start Time: 0713 Analyst: MZ/MJ SOP: SPI-1311.1	End Date: 11/15/10 End Time: 0700 Analyst: MJ JLS Method: 1311.1 MOD	Tumbler Speed: 30 RPM Leachate Batch #: L011217 Leachate Page: 1 of 2 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: L011217 Client ID#: pH After 5 Min: NA pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 Sample Wt.(g): 1000 Extract Fluid Vol.(mL): NA pH After Extraction:	Initial Filtration Data and Comments: Solids: ____% / NA special BLANK Initial Filtrate Added:
LvL #: 1007013-28 Client ID#: pH After 5 Min: 6.15 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 Sample Wt.(g): 100. Extract Fluid Vol.(mL): 100 pH After Extraction: 8.37	Initial Filtration Data and Comments: Solids: ____% / NA 028* special Initial Filtrate Added:
LvL # 1007013-029 Client ID#: pH After 5 Min: 6.15 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 8.61	Initial Filtration Data and Comments: Solids: ____% / NA 029 Initial Filtrate Added:
LvL #: 1007013 030 Client ID#: pH After 5 Min: 6.15 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.36	Initial Filtration Data and Comments: Solids: ____% / NA 030 Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date

SPI-1311.1-A-0310

Page #

000088025

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 814

Start Date: 11/14/10	End Date: 11/15	Tumbler Speed: 30 RPM
Start Time:	End Time:	Leachate Batch #: L011217
Analyst: MZ/MT	Analyst: MJS	Leachate Page: 2 of 2
SOP: SPI-1311.1	Method: 1311 MOD	Room Temp. (°C):
		Start 21 /Finish 21
		Acceptance Criteria: 23°C ± 2°

LvL #: 1007013-031 Client ID#: pH After 5 Min: 6.15 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: 8.28	Initial Filtration Data and Comments: Solids: ____% / NA 031 Initial Filtrate Added:
LvL #: 1007013-32 Client ID#: pH After 5 Min: 6.23 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 8.47	Initial Filtration Data and Comments: Solids: ____% / NA 032* Initial Filtrate Added:
LvL # 1007013-033 Client ID#: pH After 5 Min: 6.23 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.98	Initial Filtration Data and Comments: Solids: ____% / NA 033 Initial Filtrate Added:
LvL #: 1007013-034 Client ID#: pH After 5 Min: 6.23 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.18	Initial Filtration Data and Comments: Solids: ____% / NA 034 Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date

SPI-1311.1-A-0310

Page #

00000026

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 814

Start Date: 11/14/10 Start Time: 0713 Analyst: MZ / MT SOP: SPI-1311.1	End Date: 11/15/10 End Time: 0700 Analyst: MT JSS Method: 1311.1 MOD	Tumbler Speed: 30 RPM Leachate Batch #: 1011217 Leachate Page: 3 of 7 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: 1007013-035 Client ID#: pH After 5 Min: 6.23 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 SPU Sample Wt.(g): 50 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.30	Initial Filtration Data and Comments: Solids: ____% / NA 035 Initial Filtrate Added:
LvL #: 1007013-036 Client ID#: pH After 5 Min: 6.21 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 SP Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 8.42	Initial Filtration Data and Comments: Solids: ____% / NA 036 Initial Filtrate Added:
LvL # 1007013-037 Client ID#: pH After 5 Min: 6.21 pH After Acid/Heat: NA Extraction Fluid/pH: SP 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.39	Initial Filtration Data and Comments: Solids: ____% / NA 037 Initial Filtrate Added:
LvL #: 1007013-038 Client ID#: pH After 5 Min: 6.21 pH After Acid/Heat: NA Extraction Fluid/pH: SP 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: 8.20	Initial Filtration Data and Comments: Solids: ____% / NA 038 Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date _____

SPI-1311.1-A-0310

Page #

000000027

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 814

Start Date: 11/14/	End Date: 11/15/	Tumbler Speed: 36 RPM
Start Time: 0713	End Time: 0701	Leachate Batch #: 1011217
Analyst:: MZ/NA	Analyst: JSS	Leachate Page: 4 of 7
SOP: SPI-1311.1	Method: 1311.1 MOD	Room Temp. (°C):
		Start 21 /Finish 21
		Acceptance Criteria: 23°C ± 2°

LvL #: 1007013-39 Client ID#: pH After 5 Min: 6.21 pH After Acid/Heat: NA Extraction Fluid/pH: SPe-5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: 8.14	Initial Filtration Data and Comments: Solids: ____% / NA 039 Initial Filtrate Added:
LvL #: 1007013-040 Client ID#: pH After 5 Min: 6.89 pH After Acid/Heat: NA Extraction Fluid/pH: SPe 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 8.18	Initial Filtration Data and Comments: Solids: ____% / NA 040 Initial Filtrate Added:
LvL # 1007013-041 Client ID#: pH After 5 Min: 6.85 pH After Acid/Heat: ~~NA~~ Extraction Fluid/pH: SPe 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.90	Initial Filtration Data and Comments: Solids: ____% / NA 041 Initial Filtrate Added:
LvL #: 1007013-042 Client ID#: pH After 5 Min: 6.89 pH After Acid/Heat: NA Extraction Fluid/pH: SP 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.48	Initial Filtration Data and Comments: Solids: ____% / NA 042 Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date _____

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 814

Start Date: 11/14/10	End Date: 11/15/10	Tumbler Speed: 30 RPM
Start Time:	End Time: 0700	Leachate Batch #: 2011217
Analyst: MZ / MT	Analyst: MT JJS	Leachate Page: 5 of 7
SOP: SPI-1311.1	Method: 1311.1 MOD	Room Temp. (°C):
		Start 21 /Finish 21
		Acceptance Criteria: 23°C ± 2°

LvL #: 1007013-043 Client ID#: pH After 5 Min: 6.89 pH After Acid/Heat: ~~NA~~ Extraction Fluid/pH: Spec 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: ~~8.0~~ 8.15	Initial Filtration Data and Comments: Solids: _____% / NA 043 Initial Filtrate Added:
LvL #: 1007013-044 Client ID#: pH After 5 Min: 7.14 pH After Acid/Heat: ~~NA~~ Extraction Fluid/pH: 5.02 Spec Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 8.39	Initial Filtration Data and Comments: Solids: _____% / NA 044 Initial Filtrate Added:
LvL # 1007013-045 Client ID#: pH After 5 Min: 7.14 pH After Acid/Heat: ~~NA~~ Extraction Fluid/pH: 5.02 SP Sample Wt.(g): 100 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.29	Initial Filtration Data and Comments: Solids: _____% / NA ~~045~~ 045 Initial Filtrate Added:
LvL #: 1007013-046 Client ID#: pH After 5 Min: 7.14 pH After Acid/Heat: ~~NA~~ Extraction Fluid/pH: Spec 5.02 Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: 8.05	Initial Filtration Data and Comments: Solids: _____% / NA 046 Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date _____

SPI-1311.1-A-0310

Page #

000000029

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 814

Start Date: 11/14/10 Start Time: 0713 Analyst: MZ MT SOP: SPI-1311.1	End Date: 11/15/10 End Time: 0700 Analyst: MT JJS Method: 1311.1 MOY	Tumbler Speed: 30 RPM Leachate Batch #: L011217 Leachate Page: 6 of 7 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: 1007013-047 Client ID#: pH After 5 Min: 7.11 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 SP Sample Wt.(g): 100 Extract Fluid Vol.(mL): 500 pH After Extraction: 7.95	Initial Filtration Data and Comments: Solids: ____% / NA 047 Initial Filtrate Added:
LvL #: 1010081-005 Client ID#: pH After 5 Min: 8.76 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 SP Sample Wt.(g): 100 Extract Fluid Vol.(mL): 100 pH After Extraction: 8.47	Initial Filtration Data and Comments: Solids: ____% / NA 005 Initial Filtrate Added:
LvL # 1010081 006 Client ID#: pH After 5 Min: 8.76 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 SP Sample Wt.(g): 50 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.45	Initial Filtration Data and Comments: Solids: ____% / NA 006 Initial Filtrate Added:
LvL #: 1010081 007 Client ID#: pH After 5 Min: 8.76 pH After Acid/Heat: NA Extraction Fluid/pH: 5.02 Sample Wt.(g): 50 Extract Fluid Vol.(mL): 125 pH After Extraction: 8.29	Initial Filtration Data and Comments: Solids: ____% / NA 007 Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date _____

SPI-1311.1-A-0310

Page #

00000039

Lionville Laboratory

TCLP EXTRACTION RECORD
(NON-VOLATILES)

LOGBOOK # 814

Start Date: 11/14/10 Start Time: Analyst: MZ/MT SOP: SPI-1311.1	End Date: 11/15/10 End Time: 0700 Analyst: MJJS Method: 1311.1	Tumbler Speed: 30 RPM Leachate Batch #: L011217 Leachate Page: 2 of 2 Room Temp. (°C): Start 21 /Finish 21 Acceptance Criteria: 23°C ± 2°

LvL #: 1010081 - 008 Client ID#: pH After 5 Min: 8.76 pH After Acid/Heat: NA Extraction Fluid/pH: SPEC 5.02 Sample Wt.(g): 50 Extract Fluid Vol.(mL): 250 pH After Extraction: 8.21	Initial Filtration Data and Comments: Solids: ____% / NA 008 Initial Filtrate Added:
LvL #: Client ID#: pH After 5 Min: pH After Acid/Heat: Extraction Fluid/pH: Sample Wt.(g): Extract Fluid Vol.(mL): pH After Extraction:	Initial Filtration Data and Comments: Solids: ____% / NA Initial Filtrate Added:
LvL #: Client ID#: pH After 5 Min: pH After Acid/Heat: Extraction Fluid/pH: Sample Wt.(g): Extract Fluid Vol.(mL): pH After Extraction:	Initial Filtration Data and Comments: Solids: ____% / NA Initial Filtrate Added:
LvL #: Client ID#: pH After 5 Min: pH After Acid/Heat: Extraction Fluid/pH: Sample Wt.(g): Extract Fluid Vol.(mL): pH After Extraction:	Initial Filtration Data and Comments: Solids: ____% / NA Initial Filtrate Added:

Standard	ID	Prep Date	Expir Date
MS			

Reviewed By/Date

SPI-1311.1-A-0310

Page #

000000031

Lionville Laboratory Use Only: 1010081

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI LIONVILLE LABORATORY INC.

Client: WC Hanford SAF # RC-195

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: O. JOHNSON

QC: STD SW Del: STD TAT: 30

Date Rec'd: 10/20/10 Date Due:

Refrigerator #		A	2														
#/Type Container	~~Liquid~~ Solid		1P														
Volume			500														
Preservatives			—														
ANALYSES REQUESTED	ORGANIC: VOA, BNA, Pest/PCB, Herb		~~SPSE~~ ~~EXT~~					INORG: Metal, CN									

LEACHATES

MATRIX CODES: S- Soil, SE- Sediment, SO- Solid, SL- Sludge, W- Water, O- Oil, A- Air, DS- Drum Solids, DL- Drum Liquids, L- EP/TCLP Leachate, WI- Wipe, X- Other, F- Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only: VOC	Metals Cd/Cr/Pb/Ag	TCLP Cd/Cr/Pb/Ag	TCLP Cd/Cr/Pb/Ag	pH
	01	B27MY0-1	/	/	Soil	9/17/10	0825	X	X			
	02	-2						X	X			
	03	-3						X	X			
	04	-4						X	X			
	05	B27MY0-A1								X	X	X
	06	-B1								X	X	X
	07	-B2								X	X	X
	08	-C1								X	X	X

Special Instructions:

Special Instructions: 10/20/10
1. quadruplicate analyses for parent sample B27MY0
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	10/20/10	10:10

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

0999999932

RE: RC-195 Samples for Transship from St Louis to Lionville (samples B27FP8, B27FP9 and B27MY0)
Franks, Mike
to:
Kessner, Joan H
10/19/2010 02:37 PM
Cc:
"orlette@work"
Show Details

The FedEx tracking number is 4029 5262 0596.

From: Kessner, Joan H [mailto:jhkessne@wch-rcc.com]
Sent: Tuesday, October 19, 2010 10:22 AM
To: Franks, Mike
Cc: orlette@work
Subject: RE: RC-195 Samples for Transship from St Louis to Lionville (samples B27FP8, B27FP9 and B27MY0)

Mike--
Perfect!!
Thanks,
Joan

From: Franks, Mike [mailto:Mike.Franks@testamericainc.com]
Sent: Tuesday, October 19, 2010 8:03 AM
To: Kessner, Joan H
Cc: orlette@work
Subject: RE: RC-195 Samples for Transship from St Louis to Lionville (samples B27FP8, B27FP9 and B27MY0)

Joan,

Not a problem...The samples will be shipped tonight for overnight delivery.
I will send the FedEx tracking number when I get it from our Sample Receiving folks.

Thanks.

Mike

From: Kessner, Joan H [mailto:jhkessne@wch-rcc.com]
Sent: Tuesday, October 19, 2010 8:23 AM
To: Franks, Mike
Cc: orlette@work
Subject: FW: RC-195 Samples for Transship from St Louis to Lionville (samples B27FP8, B27FP9 and B27MY0)

Mike--
Sorry it took us so long to figure out what to do with these three samples.....

We would like you to ship them to Lionville for us:
Lionville Laboratory
264 Welsh Pool Road
Exton, PA 19341-1333

Attn: Orlette Johnson
610-280-3012

Our FedEx number is 3251-5922-7 to pay for the shipment.
Would you please let Orlette and myself know when these are shipped??
If you need any additional information please give me a call.
Thanks for your help,
Joan

Orlette--
Rich has put together a wish list for these samples (see below).
Please let me know if there is any additional information you need.
Thanks,
Joan

From: Weiss, Richard L
Sent: Monday, October 18, 2010 10:47 AM
To: Kessner, Joan H
Subject: RC-195 Samples for Transship from St Louis to Lionville

Joan,

Here is the information on the three samples mistakenly sent to St Louis:

SAMP_NUM	SERVICE_LIST_NAME	
B27FP8	Chromium Hex - 7196 (100 Area RIFS)	-1010082
B27FP8	ICP Metals - 6010TR (100 Area RIFS Client List)	
B27FP8	Mercury - 7471 - (CV) (100 Area RIFS)	
B27FP9	Chromium Hex - 7196 (100 Area RIFS)	
B27FP9	ICP Metals - 6010TR (100 Area RIFS Client List)	
B27FP9	Mercury - 7471 - (CV) (100 Area RIFS)	
* B27MY0	Special Extraction - D3987 (100 Area RIFS) *	-1010081

Additionally, if sufficient material exists, analysis for anions (primarily nitrate) should be performed. After receipt and examination at Lionville, the availability of additional excess material should be determined.

Rich

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Please consider the environment before printing this e-mail.

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

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

Date: 10/20/10

LvL Batch #: 1010081

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FED EX		Airbill # 4029 5262 0596
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 4-9	°C	Cooler # N/A
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	No original COC Rec'd
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☑ No	Crit rec'd out of hold
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 _____	

05 10/20/10

SR-002-B.doc

K2463

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-195-265 | PAGE 1 OF 1

COLLECTOR: Garcia, Cano	COMPANY CONTACT: DALE DYKEMAN	TELEPHONE NO.: (509) 373-2530	PROJECT COORDINATOR: KESSNER, JH
SAMPLING LOCATION: C7943 (116-C-5); I-002	PROJECT DESIGNATION: Soil/Sediment Sampling - Integrated Remedial Investigation/Feasibility Stud		SAF NO.: RC-195
ICE CHEST NO.: GWS-230	FIELD LOGBOOK NO.: HNGN-587.3.PG61	ACTUAL SAMPLE DEPTH: 22'	COA: 302512ES10
SHIPPED TO: Lionville Laboratory Incorporated	OFFSITE PROPERTY NO.: SEE PTR		BILL OF LADING/AIR BILL NO.: SEE PTR 7962650870 64

PRICE CODE: 8N | AIR QUALITY: ☐ | DATA TURNAROUND: 45 Days / 45 Days | METHOD OF SHIPMENT: FEDERAL EXPRESS

MATRIX*: A=Air, DR=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: B27FF6

PRESERVATION	None
HOLDING TIME	180 Days
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Special Extraction - CDB87 (188 Aro 8875);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B27MY0	SOIL	9/17/10	0825	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Garcia Cano	9/17/10 / 1515	MO-413 SSU-R2	9/17/10 / 1515
SSU-R2	SEP 21 2010 1739	DW Brothers	SEP 21 2010
DW Brothers	SEP 21 2010	FEDEX	

SPECIAL INSTRUCTIONS

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

ORIGINAL

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

FIELD SAMPLE COPY

A-6083-618(01/06)

09/21/2010 08:30 FAX