0099910

SAF-RC-207
Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites – In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 10/11/11
INITIAL/DATE

COMMENTS:

SDG KP0059 SAF-RC-207

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 100-C-7:1 (stockpile 038 T&P)

RECEIVED
OCT 21 2011
EDMC

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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Exton, Pennsylvania 19341
Phone (610) 280-3000
Fax (610) 280-3041

7 October 2011

RECEIVED
OCT 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 #	1109122
SDG #	KP0059
SAF #	RC-207
Date Received	09/29/11
# Samples	1
Matrix	SOIL
Volatiles	
Semivolatiles	
Pest/PCB	
Glycols	
DRO/KRO/GRO	
PAHs	
Herbicides	
Metals	X
Inorganics	

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

LIONVILLE LABORATORY
A division of Elvesine Analytical Corporation

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OCT 2011

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-207 Project Number: KP0059 Project Manager: Joan Kessner	Reported: 10/06/2011 07:38

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1L8X9	1109122-01	Soil	09/27/2011 12:00	09/29/2011 09:55

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Case Narrative

Client: WC-HANFORD RC-207
LVL#: 1109122
SDG/SAF#: KP0059/RC-207

W.O.#: 60049-001-001-0001-00
Date Received: 09-29-11

METALS

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

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

1. This narrative covers the analyses of 1 soil sample.

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

3. All analyses were performed within the required holding times.

4. Please refer to the Sample Receipt Check List for any sample discrepancies in LvLI's sample acceptance policy.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).

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

7. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation, samples greater than 20X MB value}.

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

9. All Standard Reference Material (SRM) analytes were within the Prediction Interval control limits supplied by the manufacturer.

10. The soil matrix spike (MS) recoveries for 12 analytes were outside the 75-125% control limits.

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

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 15 pages.

following analytes:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J1L8X9	Aluminum	22,000	78.9
	Antimony	100	86.6
	Calcium	20,800	67.5
	Chromium	100	94.0
	Cobalt	100	96.7
	Iron	42,000	65.4
	Lead	100	93.1
	Manganese	1,000	73.2
	Nickel	100	97.1
	Selenium	100	106.3
	Silicon	2,100	76.1
	Silver	100	86.3

* The PDS was prepared with sample L109393-DUP1 due to insufficient sample volume of sample J1L8X9.

12. The soil duplicate analyses for 6 analytes were outside the 20% Relative Percent Difference (RPD) control limit critieria. The ± 20% RPD control limit applies to sample results greater than ten times the MDL. The sample result for Cadmium was less than ten times the MDL.

13. For the purposes of this report, the data have been reported to the Limit of Detection (LOD). Values between the LOD and the Limit of Quantitation (LOQ) are acquired in a region of less-certain quantification.

14. LvL is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory

10/6/11
Date

alm/09-122%hg

LIONVILLE LABORATORY
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WC-Hanford, Inc.	Project: RC-207	
2620 Fermi Avenue	Project Number: KP0059	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/06/2011 07:38

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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J1L8X9

1109122-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Metals by SW846 6000/7000 series									
Aluminum	**4170**		3.88	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Antimony	0.466	U	0.466	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Arsenic	**1.46**		0.776	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Barium	**33.8**		0.388	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Beryllium	**0.199**		0.155	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Boron	**0.451**	B	1.55	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Cadmium	**0.0527**	B	0.155	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Calcium	**4860**		77.6	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Chromium	**5.71**		0.155	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Cobalt	**9.63**		1.55	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Copper	**14.5**		0.776	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Iron	**23600**		15.5	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Lead	**1.61**		0.388	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Magnesium	**3290**		58.2	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Manganese	**265**		3.88	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Molybdenum	**0.295**	B	1.55	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Nickel	**5.43**		3.11	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Potassium	**524**		311	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Selenium	0.233	U	0.233	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Silicon	**433**		1.55	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Silver	0.155	U	0.155	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Sodium	**283**		38.8	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Vanadium	**58.4**		1.94	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Zinc	**44.9**		7.76	mg/kg dry	1	L109393	09/29/2011	10/04/2011	6010B
Mercury	0.0279	U	0.0279	mg/kg dry	1	L110020	10/04/2011	10/04/2011	7471A

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2620 Fermi Avenue	Project Number: KP0059	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/06/2011 07:38

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L109393 - SW 3050B										
Blank (L109393-BLK1)				Prepared: 09/29/2011 Analyzed: 10/04/2011						
Aluminum	5.00	U	5.00	mg/kg wet						
Antimony	0.600	U	0.600	mg/kg wet						
Arsenic	1.00	U	1.00	mg/kg wet						
Barium	0.500	U	0.500	mg/kg wet						
Beryllium	0.200	U	0.200	mg/kg wet						
Boron	2.00	U	2.00	mg/kg wet						
Cadmium	0.200	U	0.200	mg/kg wet						
Calcium	9.64	B	100	mg/kg wet						
Chromium	0.200	U	0.200	mg/kg wet						
Cobalt	2.00	U	2.00	mg/kg wet						
Copper	1.00	U	1.00	mg/kg wet						
Iron	6.15	B	20.0	mg/kg wet						
Lead	0.500	U	0.500	mg/kg wet						
Magnesium	75.0	U	75.0	mg/kg wet						
Manganese	5.00	U	5.00	mg/kg wet						
Molybdenum	2.00	U	2.00	mg/kg wet						
Nickel	4.00	U	4.00	mg/kg wet						
Potassium	400	U	400	mg/kg wet						
Selenium	0.300	U	0.300	mg/kg wet						
Silicon	2.93		2.00	mg/kg wet						
Silver	0.200	U	0.200	mg/kg wet						
Sodium	50.0	U	50.0	mg/kg wet						
Vanadium	2.50	U	2.50	mg/kg wet						
Zinc	10.0	U	10.0	mg/kg wet						
Duplicate (L109393-DUP1)		Source: 1109122-01		Prepared: 09/29/2011 Analyzed: 10/04/2011						
Aluminum	3470		3.77	mg/kg dry		4170			18.4	20
Antimony	0.452	U	0.452	mg/kg dry		0.466 U				20
Arsenic	1.36		0.754	mg/kg dry		1.46			7.20	20
Barium	43.1		0.377	mg/kg dry		33.8			24.2*	20
Beryllium	0.191		0.151	mg/kg dry		0.199			4.31	20
Boron	1.51	U	1.51	mg/kg dry		0.451				20
Cadmium	0.0928	B	0.151	mg/kg dry		0.0527			55.1*	20
Calcium	4290		75.4	mg/kg dry		4860			12.4	20
Chromium	3.10		0.151	mg/kg dry		5.71			59.4*	20
Cobalt	9.25		1.51	mg/kg dry		9.63			4.11	20
Copper	14.1		0.754	mg/kg dry		14.5			3.22	20

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-207 Project Number: KP0059 Project Manager: Joan Kessner	Reported: 10/06/2011 07:38

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L109393 - SW 3050B										
Duplicate (L109393-DUP1)		**Source: 1109122-01**		Prepared: 09/29/2011 Analyzed: 10/04/2011						
Iron	17700		15.1	mg/kg dry		23600			29.0*	20
Lead	1.69		0.377	mg/kg dry		1.61			4.96	20
Magnesium	2810		56.6	mg/kg dry		3290			16.0	20
Manganese	216		3.77	mg/kg dry		265			20.7*	20
Molybdenum	0.278	B	1.51	mg/kg dry		0.295			5.89	20
Nickel	4.77		3.02	mg/kg dry		5.43			12.9	20
Potassium	517		302	mg/kg dry		524			1.25	20
Selenium	0.226	U	0.226	mg/kg dry		0.233 U				20
Silicon	337		1.51	mg/kg dry		433			24.8*	20
Silver	0.151	U	0.151	mg/kg dry		0.155 U				20
Sodium	274		37.7	mg/kg dry		283			3.26	20
Vanadium	45.1		1.89	mg/kg dry		58.4			25.8*	20
Zinc	37.8		7.54	mg/kg dry		44.9			17.2	20
Matrix Spike (L109393-MS1)		**Source: 1109122-01**		Prepared: 09/29/2011 Analyzed: 10/04/2011						
Aluminum	4910		4.06	mg/kg dry	162.43	4170	456*	75-125		20
Antimony	17.3		0.487	mg/kg dry	40.607	0.466 U	42.6*	75-125		20
Arsenic	128		0.812	mg/kg dry	162.43	1.46	77.7	75-125		20
Barium	175		0.406	mg/kg dry	162.43	33.8	86.9	75-125		20
Beryllium	3.25		0.162	mg/kg dry	4.0607	0.199	75.0	75-125		20
Boron	62.4		1.62	mg/kg dry	81.215	0.451	76.3	75-125		20
Cadmium	3.38		0.162	mg/kg dry	4.0607	0.0527	81.9	75-125		20
Calcium	7870		81.2	mg/kg dry	2030.4	4860	148*	75-125		20
Chromium	17.2		0.162	mg/kg dry	16.243	5.71	70.9*	75-125		20
Cobalt	39.7		1.62	mg/kg dry	40.607	9.63	74.2*	75-125		20
Copper	31.5		0.812	mg/kg dry	20.304	14.5	83.3	75-125		20
Iron	24100		16.2	mg/kg dry	81.215	23600	623*	75-125		20
Lead	29.7		0.406	mg/kg dry	40.607	1.61	69.2*	75-125		20
Magnesium	4980		60.9	mg/kg dry	2030.4	3290	83.3	75-125		20
Manganese	322		4.06	mg/kg dry	40.607	265	140*	75-125		20
Molybdenum	63.1		1.62	mg/kg dry	81.215	0.295	77.3	75-125		20
Nickel	35.6		3.25	mg/kg dry	40.607	5.43	74.3*	75-125		20
Potassium	2160		325	mg/kg dry	2030.4	524	80.4	75-125		20
Selenium	121		0.244	mg/kg dry	162.43	0.233 U	74.3*	75-125		20
Silicon	392		1.62	mg/kg dry	81.215	433	-50.2*	75-125		20
Silver	2.91		0.162	mg/kg dry	4.0607	0.155 U	71.8*	75-125		20
Sodium	2010		40.6	mg/kg dry	2030.4	283	85.0	75-125		20

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2620 Fermi Avenue	Project Number: KP0059	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/06/2011 07:38

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L109393 - SW 3050B									
Matrix Spike (L109393-MS1)		**Source: 1109122-01**	Prepared: 09/29/2011 Analyzed: 10/04/2011						
Vanadium	96.0	2.03	mg/kg dry	40.607	58.4	92.5	75-125		20
Zinc	80.2	8.12	mg/kg dry	40.607	44.9	86.9	75-125		20
Reference (L109393-SRM1)			Prepared: 09/29/2011 Analyzed: 10/04/2011						
Aluminum	7630	12.3	mg/kg wet	6670.0		114	0-200.89		
Antimony	46.0	1.48	mg/kg wet	53.000		86.9	0-235.8		
Arsenic	112	2.46	mg/kg wet	114.00		98.0	82.8-117.54		
Barium	279	1.23	mg/kg wet	307.00		90.8	79.8-120.2		
Beryllium	99.4	0.492	mg/kg wet	108.00		92.0	82.8-117.6		
Boron	79.6	4.92	mg/kg wet	85.100		93.6	67.5-132.8		
Cadmium	225	0.492	mg/kg wet	225.00		99.9	83.6-116.4		
Calcium	2960	246	mg/kg wet	3360.0		88.0	83.3-116.9		
Chromium	73.4	0.492	mg/kg wet	77.200		95.0	73.3-126.4		
Cobalt	155	4.92	mg/kg wet	166.00		93.1	80.7-118.7		
Copper	249	2.46	mg/kg wet	271.00		91.8	80.8-119.2		
Iron	7670	49.2	mg/kg wet	8420.0		91.1	78.6-121.1		
Lead	183	1.23	mg/kg wet	190.00		96.2	81.6-118.4		
Magnesium	7240	184	mg/kg wet	8570.0		84.5	83.2-116.7		
Manganese	739	12.3	mg/kg wet	965.00		76.6	69.3-130.5		
Molybdenum	230	4.92	mg/kg wet	235.00		98.0	76.2-123.8		
Nickel	207	9.84	mg/kg wet	221.00		93.8	79.6-120.8		
Potassium	13500	984	mg/kg wet	14400		93.4	81.9-118.1		
Selenium	184	0.738	mg/kg wet	187.00		98.5	75.9-124.6		
Silicon	738	4.92	mg/kg wet	807.00		91.4	0-219.3		
Silver	81.2	0.492	mg/kg wet	83.500		97.3	82.7-117.1		
Sodium	8520	123	mg/kg wet	9730.0		87.5	82.5-117.2		
Vanadium	98.0	6.15	mg/kg wet	98.700		99.3	75.9-123.6		
Zinc	197	24.6	mg/kg wet	199.00		99.2	78.4-121.6		

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WC-Hanford, Inc.	Project: RC-207	
2620 Fermi Avenue	Project Number: KP0059	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/06/2011 07:38

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L110020 - SW 7471A Prep										
Blank (L110020-BLK1)				Prepared & Analyzed: 10/04/2011						
Mercury	0.0273	U	0.0273	mg/kg wet						
Duplicate (L110020-DUP4)		**Source: 1109122-01**		Prepared & Analyzed: 10/04/2011						
Mercury	0.0264	U	0.0264	mg/kg dry		0.0279 U				20
Matrix Spike (L110020-MS4)		**Source: 1109122-01**		Prepared & Analyzed: 10/04/2011						
Mercury	0.154		0.0250	mg/kg dry	0.13892	0.0279 U	111	75-125		20
Reference (L110020-SRM1)				Prepared & Analyzed: 10/04/2011						
Mercury	1.34		0.0290	mg/kg wet	1.2900		104	62.6-138		

Lionville Laboratory

Logbook #: 1008

SAMPLE DIGESTION RECORD

Digestion Batch #: L109393
Date/Time Initiated: 9/29/11 1225
Date/Time Completed: 9/29/11 1655
Analyst: JS
Matrix (circle): Soil Water Other
Method (circle one): 3005A 3010A 3050 200.7 (1994)
pH/Turbidity: N/A for Solids.
NOTE: All temperatures are recorded as corrected temperatures

Digested / Undigested (circle one)
Balance #: B14
Balance Cal Verification: ✓ NA
Temp: 67
BLOCK 1 B (circle one)

Work Order #	Spike Vol (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/Sol/ TC	Texture	Color / Appearance	Artifact	Turb
L1091220-1		0.68	50		TO	Coarse	Brown	Rocks	N/A
L109393-Dup		0.70	50						
-MS	0.5	0.65	50						
-BLK		0.50	50			coarse	boiling chips		
-SRM	✓	0.61	50			fine	dusty powdered		

JJS
9/29/11

Spiking IDs / Expiration Date:
MS#: L101064
LCS#: ✓ L101357

Reagent IDs:
HNO_3 FCL9036
HCl FCL9040
H_2O_2 L103A11
1:1 HNO_3 637-050-04
1:1 HCl

File ID#:

Data Review By/Date: 10/3/11

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

Page #:

Lionville Laboratory

MERCURY PREPARATION

Logbook # 1009

Analyst: [signature]
Date 10/4/11
Start Time/Temp: 1450/94°
End Time/Temp: 1520/96°

Instrument ID: HG31
Balance # B29 /NA
Pipette Calibration (Daily) (Y) ____

Prep Batch: L110020
Worksheet: HG100401
SOP No. ME-HgCVAA
BLOCK (1) 2 (circle one)

NOTE: All temperatures are recorded as corrected temperatures.

LvL Work Order#	pH < 2 (Liq)	Spike Vol (mL)	Spike Conc. (µg/L)	Initial Wt. or Vol (g or mL)	Final Sample Vol (mL)	Comments, % Solids, etc.
blank				10ml	50	curve digested with
0.2 ug/l		0.100		10ml	50	L110016
1.0 ug/l		0.500		10ml	50	
2.0 ug/l		1.000		10ml	50	
5.0 ug/l		2.500		10ml	50	
10.0 ug/l		5.000		10ml	50	
ICV		0.125	2.5	10ml	50	
CCV		0.250	5.0	10ml	50	
ICB/CCB				10ml	50	
L110020-BLK1				0.33	50	
SRM1				0.31	50	
1109084-01				0.35	50	
L110020-DUP1				0.34	50	QC on 02
MS1		0.500	1.0	0.35	50	W.E. [initials] 10/4/11
1109084-02				0.33	50	
03				0.36	50	
04				0.36	50	
1109092-01				0.38	50	
L110020-DUP2				0.35	50	QC on 02
MS2		0.500	1.0	0.38	50	
1109092-02				0.37	50	
03				0.37	50	
1109110-01				0.30	50	
L110020-DUP3				0.30	50	
MS3		0.500	1.0	0.30	50	
1109122-01				0.34	50	
L110020-DUP4				0.36	5.0	

Standard:	ID	Prep Date/Time
ICAL/MS	RI 1101356B	10/4/11 1030
ICV/CCV/LCS	I.V. 1107256A	⊥

Reviewed By/Date: [signature] 10/5/11

se book # 9368 for std traceability information

Soil LCS True Value = 1.29 mg/Kg
Standard # 1101357

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
after LCS Spiking Concentration: 1.0 µg/ml

ME-HgCVAA-Prep0910

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Lionville Laboratory

MERCURY PREPARATION

Logbook # 1009

Analyst: [illegible]
Date 10/4/11
Start Time/Temp: [illegible]
End Time/Temp: [illegible]

Instrument ID: HG3.1
Balance # B29 /NA
Pipette Calibration (Daily) (Y)

Prep Batch: L110020
Worksheet: HG100401
SOP No. ME-HgCVAA
BLOCK (1) 2 (circle one)

NOTE: All temperatures are recorded as corrected temperatures.

LvL Work Order#	pH < 2 (Liq)	Spike Vol (mL)	Spike Conc. (µg/L)	Initial Wt. or Vol (g or mL)	Final Sample Vol (mL)	Comments, % Solids, etc.
L110070-MS4		0.500	1.0	0.38	50	
1110004-01				0.34	50	
L110020-DUP5				0.37	50	
MS5		0.500	1.0	0.37	50	

PW 10/4/11

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

Reviewed By/Date: [illegible] 10/5/11

se book # 9368 for std traceability information

Soil LCS True Value = [illegible] mg/Kg
Standard # [illegible]

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
~~Air~~ LCS Spiking Concentration: 1.0 µg/ml

ME-HgCVAA-Prep0910

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~~000000023~~

Lionville Laboratory Use Only
1109122

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Lionville Laboratory
A Division of Eberline Analytical Corporation

Client: WC. Hanford SAF# RC-207
Est. Final Proj. Sampling Date:
Project#:
Project Contact/Phone#:
Lionville Laboratory Project Manager: Orlette Johnson
QC: SW Del: STD TAT: 7 days
Date Rec'd: 9-29-11 Date Due: 10-6-11

		A	B
Refrigerator #		1	1
#/Type Container	Liquid		
	Solid	1 pol	1 acl
Volume	Liquid		
	Solid	125	125
Preservatives		—	—

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb	INORG Metal + Hg	CN	TCLP Wet Chem + Hg
01	J1L8X9	✓	✓	S	9.27.11	1200					X		X

Lionville Laboratory Use Only

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

Special Instructions:
Met① = HSL + B, MO, Si
(NO-TL)

Special Instructions:
1. Hold TCLP analysis unti directed to by Joan Kessner
2.
3.
4.
5.
6.

See SRC

Relinquished by	Received by	Date	Time
[signature]	[signature]	9.29.11	0955

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL			
REWRITTEN			

000000013

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-207-038	Page 1 of 1
Collector A. Dunnum	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L (CW) 09/27/11 ~~21 Days~~ 8 J 7/45 days Data Turnaround
Project Designation Remedial Action of the 100-C-7 & 100-C-7:1 Waste Sites - I	Sampling Location 100-C-7:1 (stockpile 038 T&P)		SAF No. RC-207	
Ice Chest No. WCH-11-022	Field Logbook No. EL-1655-03	COA R100C72600	Method of Shipment Fed Ex	
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A100 898		Bill of Lading/Air Bill No. See OSPC	

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POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool, 4 degrees Centigrade

Preservation				Cool 4C	None							
Type of Container				G/P	aG							
No. of Container(s)				1	1							
Volume				125mL	125mL							
SAMPLE ANALYSIS				See item (1) in Special Instructions.	See item (2) in Special Instructions.							
Sample No.	Matrix *	Sample Date	Sample Time									
J1L8X9	SOIL	09/27/11	1200	X	X							

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From [signature]	Date/Time 9-27-11 12:05	Received By/Stored In R. Fahlberg [signature]	Date/Time 1205 9.27.11
Relinquished By/Removed From R. Fahlberg [signature]	Date/Time 1610 9.27.11	Received By/Stored In 1060, #1 A. Freier [signature]	Date/Time 1610 9-27-11
Relinquished By/Removed From WCH A. Freier [signature] 1060#1	Date/Time 0920 9-28-11	Received By/Stored In Fed EX	Date/Time
Relinquished By/Removed From FEDEX	Date/Time 9-29-11 0955	Received By/Stored In DONNA SMITH Donna Smith [signature]	Date/Time 09-29-11 0955
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Hold TCLP analysis until directed to run by J. Kessner

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) (Mercury)

(2) Metals by ICP (TCLP) - 1311/6010 {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury (TCLP) - 1311/7470 (Mercury)

Matrix *

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

KP0059

REVIEWED BY [signature] DATE 9/28/11

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

WCH-EE-011

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC. Hansen Date: 9.29.11

Project/SAF/SOW/Release #: RC-207

LvL Batch #: 1109122 Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7952 3622 1731
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	Comments:
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.0	°C	Cooler # WCH-11-022
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify)
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvL) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☑ Yes	☐ No	☐ N/A
15. Shipment meets LvL Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____