0091179

SAF-RC-143
100-IU-2 & 100-IU-6 Remaining Sites
Soil In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 10/5/10
INITIAL/DATE

COMMENTS:

SDG K2106 **SAF-RC-143**

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location/Waste Site: 600-3 (lead debris/soil)

RECEIVED
OCT 14 2010
EDMC

July 26, 2010

Joan Kessner
WCH
2620 Fermi Avenue
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 #	1006091
SDG #	K2106
SAF #	RC-143
Date Received	6/23/10
Matrix	Soil
Semivolatiles	
Metals	X
Inorganics	
Pesticides	
VOA	
PCB	
PAH	
DRO	

The electronic data deliverable (EDD) will be e-mailed shortly. If you have any questions, please don't hesitate to contact us at (610) 280-3012.

Sincerely,

Orlette S. Johnson
Lionville Laboratory Incorporated

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

WC-Hanford, Inc.	Project: RC-143	
2620 Fermi Avenue	Project Number: K2106	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/18/2010 15:23

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1B961	1006091-01	Soil	06/21/2010 10:50	06/23/2010 10:20

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Exton, Pennsylvania 19341
Phone (610) 280-3000
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Case Narrative

Client: WC-HANFORD RC-143
LVL#: 1006091
SDG/SAF#: K2106/RC-143

W.O.#: 60049-001-001-0001-00
Date Received: 06-23-10

METALS

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

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

1. This narrative covers the analysis 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 (3-10X the LOD), samples were 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 matrix spike (MS) recoveries for 6 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 16 pages.

following analytes:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J1B961	Antimony	100	114.1
	Aluminum	22,000	93.9
	Iron	42,000	59.2
	Magnesium	21,600	70.1
	Manganese	1,000	78.0
	Silicon	2,600	170.3

12. The duplicate analysis for 1 analyte was 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 Boron 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

7/16/10
Date

alm/06-091

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WC-Hanford, Inc.	Project: RC-143	
2620 Fermi Avenue	Project Number: K2106	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/15/2010 13:24

Notes and Definitions

U	Analyte included in the analysis, but not detected
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
RPD	Relative Percent Difference
*	Value outside of QC limits

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WC-Hanford, Inc.	Project: RC-143	
2620 Fermi Avenue	Project Number: K2106	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/18/2010 15:23

J1B961

1006091-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**7700**		4.24	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Antimony	**0.565**		0.509	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Arsenic	**2.53**		0.849	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Barium	**76.2**		0.424	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Beryllium	**0.246**		0.170	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Boron	**4.01**		1.70	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Cadmium	**0.121**	B	0.170	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Calcium	**3760**		84.9	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Chromium	**10.1**		0.170	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Cobalt	**8.07**		1.70	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Copper	**12.3**		0.849	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Iron	**23900**		17.0	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Lead	**5.74**		0.424	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Magnesium	**4410**		63.7	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Manganese	**346**		4.24	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Molybdenum	**0.385**	B	1.70	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Nickel	**9.49**		3.40	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Potassium	**1490**		340	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Selenium	0.255	U	0.255	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Silicon	**399**		1.70	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Silver	0.170	U	0.170	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Sodium	**219**		42.4	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Vanadium	**67.5**		2.12	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Zinc	**49.2**		8.49	mg/kg dry	1	L006276	06/28/2010	07/02/2010	6010B
Mercury	0.0279	U	0.0279	mg/kg dry	1	L007046	07/07/2010	07/07/2010	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-143 Project Number: K2106 Project Manager: Joan Kessner	Reported: 07/18/2010 15:23

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 L006276 - SW 3050B										
Blank (L006276-BLK1)				Prepared: 06/28/2010 Analyzed: 07/02/2010						
Aluminum	5.12		3.42	mg/kg wet						
Antimony	0.411	U	0.411	mg/kg wet						
Arsenic	0.685	U	0.685	mg/kg wet						
Barium	0.342	U	0.342	mg/kg wet						
Beryllium	0.137	U	0.137	mg/kg wet						
Boron	0.417	B	1.37	mg/kg wet						
Cadmium	0.137	U	0.137	mg/kg wet						
Calcium	12.0	B	68.5	mg/kg wet						
Chromium	0.137	U	0.137	mg/kg wet						
Cobalt	1.37	U	1.37	mg/kg wet						
Copper	0.685	U	0.685	mg/kg wet						
Iron	13.7	U	13.7	mg/kg wet						
Lead	0.342	U	0.342	mg/kg wet						
Magnesium	51.4	U	51.4	mg/kg wet						
Manganese	3.42	U	3.42	mg/kg wet						
Molybdenum	1.37	U	1.37	mg/kg wet						
Nickel	2.74	U	2.74	mg/kg wet						
Potassium	27.6	B	274	mg/kg wet						
Selenium	0.205	U	0.205	mg/kg wet						
Silicon	1.37	U	1.37	mg/kg wet						
Silver	0.137	U	0.137	mg/kg wet						
Sodium	7.38	B	34.2	mg/kg wet						
Vanadium	1.71	U	1.71	mg/kg wet						
Zinc	6.85	U	6.85	mg/kg wet						
Duplicate (L006276-DUP1)		**Source: 1006091-01**		Prepared: 06/28/2010 Analyzed: 07/02/2010						
Aluminum	7390		3.93	mg/kg dry		7700			4	20
Antimony	0.525		0.471	mg/kg dry		0.565			7	20
Arsenic	2.82		0.786	mg/kg dry		2.53			11	20
Barium	80.5		0.393	mg/kg dry		76.2			5	20
Beryllium	0.237		0.157	mg/kg dry		0.246			4	20
Boron	2.21		1.57	mg/kg dry		4.01			58*	20
Cadmium	0.115	B	0.157	mg/kg dry		0.121			5	20
Calcium	3730		78.6	mg/kg dry		3760			0.8	20
Chromium	7.60		0.157	mg/kg dry		10.1			28*	20
Cobalt	7.41		1.57	mg/kg dry		8.07			9	20
Copper	12.0		0.786	mg/kg dry		12.3			2	20

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-143 Project Number: K2106 Project Manager: Joan Kessner	Reported: 07/18/2010 15:23

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 L006276 - SW 3050B										
Duplicate (L006276-DUP1)		**Source: 1006091-01**		Prepared: 06/28/2010 Analyzed: 07/02/2010						
Iron	22100		15.7	mg/kg dry		23900			8	20
Lead	5.84		0.393	mg/kg dry		5.74			2	20
Magnesium	4020		58.9	mg/kg dry		4410			9	20
Manganese	317		3.93	mg/kg dry		346			9	20
Molybdenum	0.320	B	1.57	mg/kg dry		0.385			18	20
Nickel	8.43		3.14	mg/kg dry		9.49			12	20
Potassium	1410		314	mg/kg dry		1490			6	20
Selenium	0.236	U	0.236	mg/kg dry		0.255 U				20
Silicon	369		1.57	mg/kg dry		399			8	20
Silver	0.157	U	0.157	mg/kg dry		0.170 U				20
Sodium	209		39.3	mg/kg dry		219			5	20
Vanadium	62.9		1.96	mg/kg dry		67.5			7	20
Zinc	47.3		7.86	mg/kg dry		49.2			4	20
Matrix Spike (L006276-MS1)		**Source: 1006091-01**		Prepared: 06/28/2010 Analyzed: 07/02/2010						
Aluminum	8770		4.54	mg/kg dry	181.51	7700	586*	75-125		
Antimony	21.8		0.545	mg/kg dry	45.376	0.565	47*	75-125		
Arsenic	160		0.908	mg/kg dry	181.51	2.53	87	75-125		
Barium	243		0.454	mg/kg dry	181.51	76.2	92	75-125		
Beryllium	4.14		0.182	mg/kg dry	4.5376	0.246	86	75-125		
Boron	81.4		1.82	mg/kg dry	90.753	4.01	85	75-125		
Cadmium	4.54		0.182	mg/kg dry	4.5376	0.121	97	75-125		
Calcium	5900		90.8	mg/kg dry	2268.8	3760	94	75-125		
Chromium	23.8		0.182	mg/kg dry	18.151	10.1	76	75-125		
Cobalt	46.7		1.82	mg/kg dry	45.376	8.07	85	75-125		
Copper	33.8		0.908	mg/kg dry	22.688	12.3	95	75-125		
Iron	23100		18.2	mg/kg dry	90.753	23900	-960*	75-125		
Lead	43.6		0.454	mg/kg dry	45.376	5.74	83	75-125		
Magnesium	5820		68.1	mg/kg dry	2268.8	4410	62*	75-125		
Manganese	358		4.54	mg/kg dry	45.376	346	25*	75-125		
Molybdenum	82.1		1.82	mg/kg dry	90.753	0.385	90	75-125		
Nickel	48.1		3.63	mg/kg dry	45.376	9.49	85	75-125		
Potassium	3510		363	mg/kg dry	2268.8	1490	89	75-125		
Selenium	153		0.272	mg/kg dry	181.51	0.255 U	84	75-125		
Silicon	653		1.82	mg/kg dry	90.753	399	280*	75-125		
Silver	3.59		0.182	mg/kg dry	4.5376	0.170 U	79	75-125		
Sodium	2390		45.4	mg/kg dry	2268.8	219	96	75-125		

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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 L006276 - SW 3050B									
Matrix Spike (L006276-MS1)		**Source: 1006091-01**	Prepared: 06/28/2010 Analyzed: 07/02/2010						
Vanadium	109	2.27	mg/kg dry	45.376	67.5	90	75-125		
Zinc	90.9	9.08	mg/kg dry	45.376	49.2	92	75-125		
Reference (L006276-SRM1)			Prepared: 06/28/2010 Analyzed: 07/02/2010						
Aluminum	7940	14.2	mg/kg wet	6766.6		117	0-225.5		
Antimony	65.1	1.70	mg/kg wet	56.630		115	0-225.6		
Arsenic	116	2.83	mg/kg wet	113.85		102	85-115		
Barium	323	1.42	mg/kg wet	298.35		108	75.7-124.3		
Beryllium	108	0.566	mg/kg wet	108.32		100	85.2-114.8		
Boron	87.5	5.66	mg/kg wet	86.580		101	68.5-131.6		
Cadmium	231	0.566	mg/kg wet	224.09		103	84.9-115.1		
Calcium	3270	283	mg/kg wet	3305.9		99	82.8-117.2		
Chromium	78.6	0.566	mg/kg wet	77.590		101	76.8-123.2		
Cobalt	165	5.66	mg/kg wet	163.19		101	79.4-120.6		
Copper	278	2.83	mg/kg wet	265.65		105	82.4-117.6		
Iron	8430	56.6	mg/kg wet	8202.8		103	78.9-121.1		
Lead	192	1.42	mg/kg wet	187.62		102	81.5-118.5		
Magnesium	8170	212	mg/kg wet	8352.3		98	84.2-115.8		
Manganese	959	14.2	mg/kg wet	951.35		101	69-131		
Molybdenum	250	5.66	mg/kg wet	234.78		106	80.1-119.9		
Nickel	227	11.3	mg/kg wet	220.85		103	81.4-118.6		
Potassium	14400	1130	mg/kg wet	14177		101	85.7-114.3		
Selenium	193	0.849	mg/kg wet	187.99		103	78.8-121.2		
Silicon	942	5.66	mg/kg wet	939.78		100	0-272.3		
Silver	85.2	0.566	mg/kg wet	83.960		101	81.9-118.1		
Sodium	9870	142	mg/kg wet	9587.1		103	83.5-116.4		
Vanadium	106	7.08	mg/kg wet	97.430		109	75.8-124.2		
Zinc	208	28.3	mg/kg wet	196.52		106	78.9-121.1		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-143 Project Number: K2106 Project Manager: Joan Kessner	**Reported:** 07/18/2010 15:23

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 L007046 - SW 7471A Prep										
Blank (L007046-BLK1)				Prepared & Analyzed: 07/07/2010						
Mercury	0.0250	U	0.0250	mg/kg wet						
Duplicate (L007046-DUP2)		**Source: 1006091-01**		Prepared & Analyzed: 07/07/2010						
Mercury	0.0271	U	0.0271	mg/kg dry		0.0279 U				20
Matrix Spike (L007046-MS2)		**Source: 1006091-01**		Prepared: 07/07/2010 Analyzed: 07/08/2010						
Mercury	0.154		0.0263	mg/kg dry	0.14621	0.0279 U	105	75-125		
Reference (L007046-SRM1)				Prepared & Analyzed: 07/07/2010						
Mercury	1.20		0.0231	mg/kg wet	1.2600		95.1	65.9-133.3		

Lionville Laboratory

Logbook #: 783

SAMPLE DIGESTION RECORD

Digestion Batch #: L006276
Date/Time Initiated: 6/28/10 1130
Date/Time Completed: 6/28/10 1605
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 NA
Temp: 99
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
1006091-01		0.62	50		TO	Course	Brown	Rocks	N/A
L006276-Dp1		0.67	50			Course	Brown	Rocks	
L006276-MS1	0.5	0.58	50			Course	Brown	Rocks	
L006276-BLK1		0.73	50			Course	Boiling Chips		
L006276-SM1		0.53	50			Fine	dusty pink sand		

JJS
6/28/10

Spiking IDs / Expiration Date:
MS#: 8100-04-07
.08
.09
6072-086-13
LCS#: 0907564

Reagent IDs:
HNO_3 J061093
HCl J110039
H_2O_2 H128A12
1:1 HNO_3 637-019-05
1:1 HCl

File ID#:

Data Review By / Date: Cpm 6/30/10

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

Page #:

Lionville Laboratory

MERCURY PREPARATION

Logbook # 791

Analyst: PW for JJS / TLB
Date 7/7/10
Start Time/Temp: 1950 / 94°
End Time/Temp: 2020 / 95°

Instrument ID HG3.1
Balance #: B14 /NA
Pipette Calibration (Daily) (Y)

Prep Batch: L007046
Worksheet: HG070701 / HG070801
SOP No. ME-HgCVAA
BLOCK 1 (2) (circle one)

pH < 2 for Liquids? __ Yes __ No (If no: designate affected samples in Comments column, and initiate an SDR)

NOTE: The Inital/Final Volume for water samples = 33mL, unless otherwise noted.
The Final volume for soil samples = 50mL, unless otherwise noted.
All temperatures are recorded as corrected temperatures.

LvL Batch #	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
Blank			10 ml	50	
0.2 ug/l	0.100		10 ml	50	
1.0 ug/l	0.500		10 ml	50	
2.0 ug/l	1.000		10 ml	50	
5.0 ug/l	2.500		10 ml	50	
10.0 ug/l	5.000		10 ml	50	
ICV	0.125	2.5	10 ml	50	
CCV	0.250	5.0	10 ml	50	
ICB/CCB			10 ml	50	
L007046-BLK1			0.36	50	
W.E. PW 7/7/10 SRM1	(A)	(A)	0.39	50	
1006088-01			0.32	50	
L007046-DUP1			0.35	50	
MS1	0.500	1.0	0.32	50	
1006088-02			0.35	50	
03			0.30	50	
04			0.35	50	
05			0.37	50	
06			0.31	50	
1006091-07			0.34	50	
L007046-DUP2			0.35	50	
MS2	0.500	1.0	0.36	50	
1006101-01			0.31	50	
L007046-DUP3			0.30	50	
MS3	0.500	1.0	0.33	50	
1006105-01			0.31	50	
02			0.37	50	

Standard:	ID	Prep Date/Time
ICAL/MS	RI 0901985B	7/7/10 1520
ICV/CCV/LCS	I.V. 0902297 A	↓

Reviewed By/Date: _____

se book # 9368 for std traceability information

oil LCS True Value = 1.26 mg/Kg
tandard # 0902564 (A)

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

IE-HgCVAA-Prep1209

Page #:

000000011

Lionville Laboratory

MERCURY PREPARATION

Logbook # 791

Analyst: MW for JJS/TLB
Date 7/7/10
Start Time/Temp: See pg 07
End Time/Temp: See pg

Instrument ID HG3.1
Balance #: See pg 07 /NA
Pipette Calibration (Daily) (Y)

Prep Batch: L007046
Worksheet: HG070701/HG070801
SOP No. ME-HgCVAA
BLOCK (1) 2 (circle one)

pH < 2 for Liquids? __ Yes __ No (If no: designate affected samples in Comments column, and initiate an SDR)

NOTE: The Inital/Final Volume for water samples = 33mL, unless otherwise noted.
The Final volume for soil samples = 50mL, unless otherwise noted.
All temperatures are recorded as corrected temperatures.

LvL Batch #	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
L007046-DUP4			0.40	50	
MS4	0.500	1.0	0.34	50	
1006105-03			0.38	50	
04			0.32	50	

MW 7/7/10

Standard:	ID	Prep Date/Time
CAL/MS		
CV/CCV/LCS		

Reviewed By/Date:

se book # 9368 for std traceability information

Soil LCS True Value = See page 07 mg/Kg
Standard #

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

E-HgCVAA-Prep1209

Page #:

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Lionville Laboratory

Logbook # 763

% SOLID / % MOISTURE ANALYSIS RECORD

Analyst: [illegible]
Start Date/Time/Temp: 6/23/10 1340 105°C
End Date/ Time/Temp: 6/24/10 0720 105°C
Balance ID: B6

Method: WC-160.6
Worksheet: XSOL0623
Prep Batch: 10L0/0044
Promium Batch: L006257 - Moisture Content
L006258 - % Solids

NOTE: All temperatures are recorded as corrected temperatures.

Sample ID	Container wt (g)	Initial wt (g) (Sample & Container)	Final wt (g) (Sample & Container)	% Solid	% Moisture
1006088-01	1.330	5.227	4.983	93.74	
-01R	1.333	5.317	5.082	94.10	
-02	1.314	6.017	5.919	97.92	
-03	1.330	5.414	5.343	98.26	
-04	1.293	5.973	5.880	98.01	
-05	1.314	5.114	4.916	94.79	
-06	1.322	5.440	5.106	91.89	
1006091-01	1.316	5.808	5.583	94.99	
-01R	1.349	5.182	4.988	94.94	
1006094-01	1.320	6.279	6.071	95.81	4.19
-01R	1.334	6.210	5.996	95.61	4.39
-02	1.309	5.923	5.797	97.27	2.73
-03	1.319	5.920	5.766	96.65	3.35
-04	1.329	6.567	6.333	95.53	4.47

MC

LOO 6-23/10

"R" = replicate, "wt" = weight"

Example Calculations: % solids = $\frac{\text{Pan and dry sample wt. (g) – pan wt. (g)}}{\text{Pan and wet sample wt. (g) – pan wt. (g)}}$ X 100

% moisture = 100% - % solids result

Reviewed By/Date: M. Dough 6/24/10

Page #

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See SRC

Lionville Laboratory Use Only
1006091

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-143

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: O. JOHNSON

QC: SW Del: STD TAT: 21 Days

Date Rec'd: 6/23/10 Date Due: 7-14-10

		A	B
Refrigerator #		2	2
#/Type Container	Liquid		
	Solid	1P	1AG
Volume		250	500
Preservatives		—	—
ANALYSES REQUESTED →		ORGANIC: VOA, BNA, Pest/PCB, Herb	INORG: Metal Hg, CN; TCLP Met. Hg

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
- Fs Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Met①	TCLP RCRA
01	J1B961	✓	✓	Soil	6/21/10	1050	X	X

Special Instructions:

Met① = HSL + B, Mo, Si

NOTE

Special Instructions:

Per Client 1. TCLP is LEACH AND HOLD.

2.

3.

4.

5.

6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6/23/10	1020

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		"COMPOSITE WASTE"	

000000014

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-143-046	Page 1 of 1
Collector R. Berven	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L Data Turnaround 21 Days
Project Designation 100-IU-2 & 100-IU-6 Remaining Sites - Soil In-Process	Sampling Location 600-3 (lead debris/soil)		SAF No. RC-143	
Ice Chest No. GWS-135	Field Logbook No. EL-1643-2	COA R600032600	Method of Shipment Fed Ex	
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A100223		Bill of Lading/Air Bill No. See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

~~None~~ ~~Less~~ DM 6-22-10

RADIOACTIVE < DOT Specifications DM 6-22-10

Special Handling and/or Storage

Cool, 4 degrees centigrade

Preservation	~~None~~ JEB	Cool 4°C ~~None~~ 6-21-10									
Type of Container	G/P	aG									
No. of Container(s)	1	1									
Volume	250mL	500mL									
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.									

Sample No.	Matrix *	Sample Date	Sample Time										
J1B961	SOIL	6-21-10	1050	X	X								

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Ric Berven [signature]	6-21-10 1130	Don Heidelberg [signature]	1130 6/21/10
Don Heidelberg [signature]	6-21-10 1530	Daniel Herrera [signature]	6-21-10 / 1530
Daniel Herrera [signature] WCH	6-22-10 / 1300	FED EX	
Fed Ex	6-23-10 1020	Victor Hernandez 6-23-10	1020

SPECIAL INSTRUCTIONS

Hold TCLP analysis until directed to run by Joan 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)

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

REVIEWED BY JEB DATE 6-22-10

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

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

WCH-EE-011

000000015

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC Hanford
Project/SAF/SOW/Release #: RC-143

Date: 6/23/10

LvL Batch #:

Sample Custodian: [signature]

NOTE. EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier [signature]		Airbill # 7987 8367 1530
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 2-8	°C	Cooler # GW5-135
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 VH6-23-10
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 _____	