0093516

SAF-RC-182
ARRA 100-F Remaining Sites Remediation – Soil In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 1/6/11
INITIAL/DATE

COMMENTS:

SDG K2451 SAF-RC-182

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 100-F-49

RECEIVED
JAN 13 2011
EDMC

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

RECEIVED
DEC 2010

28 December 2010

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 #	1010061
SDG #	K2451
SAF #	RC-182
Date Received	1013/10
# Samples	1
Matrix	SOIL
Volatiles	
Semivolatiles	X
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 Shealine Analytical Corporation

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

RECEIVED
DEC 2010

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-182 Project Number: K2451 Project Manager: Joan Kessner	Reported: 12/22/2010 07:00

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1CCL3	1010061-01	Soil	10/07/2010 09:30	10/13/2010 09:40

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-182
LVL#: 1010061
SDG/SAF#: K2451/RC-182

W.O.#: 60049-001-001-0001-00
Date Received: 10-13-10

METALS

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

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

1. This narrative covers the analyses of 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), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}.

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

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

10. The soil matrix spike (MS) recoveries for 5 analytes were outside the 75-125% control limits. The matrix spike for Mercury was inadvertently double spiked.

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
J1CCL	Aluminum	22,000	95.6

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 17 pages.

Antimony	100	102.2
Calcium	20,800	82.9
Iron	42,000	83.8
Silicon	2,100	124.4

12. The soil duplicate analyses for 2 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 Selenium 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

12/22/10
Date

alm/10-061

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	12/22/2010 07:00

Notes and Definitions

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

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	12/22/2010 07:00

J1CCL3

1010061-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**6610**		5.00	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Antimony	0.600	U	0.600	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Arsenic	**2.64**		1.00	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Barium	**53.0**		0.500	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Beryllium	**0.198**	B	0.200	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Boron	**1.57**	B	2.00	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Cadmium	**0.105**	B	0.200	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Calcium	**8980**		100	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Chromium	**8.32**		0.200	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Cobalt	**4.91**		2.00	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Copper	**11.7**		1.00	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Iron	**14800**		20.0	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Lead	**2.73**		0.500	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Magnesium	**4230**		75.0	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Manganese	**211**		5.00	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Molybdenum	**0.266**	B	2.00	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Nickel	**8.56**		4.00	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Potassium	**988**		400	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Selenium	**0.482**		0.300	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Silicon	**630**		2.00	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Silver	0.200	U	0.200	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Sodium	**440**		50.0	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Vanadium	**38.2**		2.50	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Zinc	**28.6**		10.0	mg/kg dry	1	L010317	10/22/2010	10/24/2010	6010B
Mercury	0.0302	U	0.0302	mg/kg dry	1	L010306	10/22/2010	10/25/2010	7471A

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	12/22/2010 07:00

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 L010306 - SW 7471A Prep										
Blank (L010306-BLK1)				Prepared: 10/22/2010 Analyzed: 10/25/2010						
Mercury	0.0300	U	0.0300	mg/kg wet						
Duplicate (L010306-DUP3)		**Source: 1010061-01**		Prepared: 10/22/2010 Analyzed: 10/25/2010						
Mercury	0.0293	U	0.0293	mg/kg dry		0.0302 U				20
Matrix Spike (L010306-MS3)		**Source: 1010061-01**		Prepared: 10/22/2010 Analyzed: 10/25/2010						
Mercury	0.179		0.0285	mg/kg dry	0.15842	0.0302 U	113	75-125		
Reference (L010306-SRM1)				Prepared: 10/22/2010 Analyzed: 10/25/2010						
Mercury	1.33		0.0265	mg/kg wet	1.2600		105	65.9-133.3		
Batch L010317 - SW 3050B										
Blank (L010317-BLK1)				Prepared: 10/22/2010 Analyzed: 10/24/2010						
Aluminum	3.29	U	3.29	mg/kg wet						
Antimony	0.395	U	0.395	mg/kg wet						
Arsenic	0.658	U	0.658	mg/kg wet						
Barium	0.329	U	0.329	mg/kg wet						
Beryllium	0.132	U	0.132	mg/kg wet						
Boron	1.32	U	1.32	mg/kg wet						
Cadmium	0.132	U	0.132	mg/kg wet						
Calcium	65.8	U	65.8	mg/kg wet						
Chromium	0.132	U	0.132	mg/kg wet						
Cobalt	1.32	U	1.32	mg/kg wet						
Copper	0.658	U	0.658	mg/kg wet						
Iron	13.2	U	13.2	mg/kg wet						
Lead	0.329	U	0.329	mg/kg wet						
Magnesium	49.3	U	49.3	mg/kg wet						
Manganese	3.29	U	3.29	mg/kg wet						
Molybdenum	1.32	U	1.32	mg/kg wet						
Nickel	2.63	U	2.63	mg/kg wet						
Potassium	263	U	263	mg/kg wet						
Selenium	0.197	U	0.197	mg/kg wet						
Silicon	1.32	U	1.32	mg/kg wet						
Silver	0.132	U	0.132	mg/kg wet						
Sodium	32.9	U	32.9	mg/kg wet						
Vanadium	1.64	U	1.64	mg/kg wet						
Zinc	6.58	U	6.58	mg/kg wet						

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	12/22/2010 07:00

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 L010317 - SW 3050B										
Duplicate (L010317-DUP2)		**Source: 1010061-01**		Prepared: 10/22/2010 Analyzed: 10/24/2010						
Aluminum	6470		15.6	mg/kg dry		6610			2	20
Antimony	0.781	U	0.781	mg/kg dry		0.600 U				20
Arsenic	2.44		0.781	mg/kg dry		2.64			8	20
Barium	51.4		0.391	mg/kg dry		53.0			3	20
Beryllium	0.203		0.156	mg/kg dry		0.198			2	20
Bismuth	1.17	U	1.17	mg/kg dry						20
Boron	1.40	B	1.56	mg/kg dry		1.57			12	20
Cadmium	0.0946	B	0.195	mg/kg dry		0.105			10	20
Calcium	6840		15.6	mg/kg dry		8980			27*	20
Chromium	8.85		0.781	mg/kg dry		8.32			6	20
Cobalt	4.99		2.34	mg/kg dry		4.91			2	20
Copper	10.9		1.56	mg/kg dry		11.7			7	20
Iron	15700		15.6	mg/kg dry		14800			6	20
Lead	2.65		0.781	mg/kg dry		2.73			3	20
Magnesium	3990		3.91	mg/kg dry		4230			6	20
Manganese	222		0.781	mg/kg dry		211			5	20
Molybdenum	0.237	B	0.781	mg/kg dry		0.266			12	20
Nickel	8.69		1.95	mg/kg dry		8.56			2	20
Potassium	1030		78.1	mg/kg dry		988			5	20
Selenium	0.356	B	0.781	mg/kg dry		0.482			30*	20
Silicon	468		4.69	mg/kg dry		630			30*	20
Silver	0.781	U	0.781	mg/kg dry		0.200 U				20
Sodium	359		39.1	mg/kg dry		440			20	20
Vanadium	40.9		0.781	mg/kg dry		38.2			7	20
Zinc	29.7		2.34	mg/kg dry		28.6			4	20
Matrix Spike (L010317-MS2)		**Source: 1010061-01**		Prepared: 10/22/2010 Analyzed: 10/24/2010						
Aluminum	7280		4.13	mg/kg dry	165.31	6610	404*	75-125		
Antimony	22.6		0.496	mg/kg dry	41.327	0.600 U	55*	75-125		
Arsenic	152		0.827	mg/kg dry	165.31	2.64	91	75-125		
Barium	210		0.413	mg/kg dry	165.31	53.0	95	75-125		
Beryllium	3.96		0.165	mg/kg dry	4.1327	0.198	91	75-125		
Boron	75.2		1.65	mg/kg dry	82.654	1.57	89	75-125		
Cadmium	3.99		0.165	mg/kg dry	4.1327	0.105	94	75-125		
Calcium	10400		82.7	mg/kg dry	2066.4	8980	70*	75-125		
Chromium	23.5		0.165	mg/kg dry	16.531	8.32	92	75-125		
Cobalt	42.3		1.65	mg/kg dry	41.327	4.91	91	75-125		

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	12/22/2010 07:00

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 L010317 - SW 3050B									
Matrix Spike (L010317-MS2)		**Source: 1010061-01**	Prepared: 10/22/2010 Analyzed: 10/24/2010						
Copper	30.3	0.827	mg/kg dry	20.664	11.7	90	75-125		
Iron	15000	16.5	mg/kg dry	82.654	14800	260*	75-125		
Lead	38.0	0.413	mg/kg dry	41.327	2.73	85	75-125		
Magnesium	5970	62.0	mg/kg dry	2066.4	4230	84	75-125		
Manganese	246	4.13	mg/kg dry	41.327	211	86	75-125		
Molybdenum	77.6	1.65	mg/kg dry	82.654	0.266	94	75-125		
Nickel	45.2	3.31	mg/kg dry	41.327	8.56	89	75-125		
Potassium	2860	331	mg/kg dry	2066.4	988	90	75-125		
Selenium	143	0.248	mg/kg dry	165.31	0.482	86	75-125		
Silicon	575	1.65	mg/kg dry	82.654	630	-66*	75-125		
Silver	3.56	0.165	mg/kg dry	4.1327	0.200 U	86	75-125		
Sodium	2460	41.3	mg/kg dry	2066.4	440	98	75-125		
Vanadium	75.2	2.07	mg/kg dry	41.327	38.2	90	75-125		
Zinc	65.6	8.27	mg/kg dry	41.327	28.6	90	75-125		
Reference (L010317-SRM1)			Prepared: 10/22/2010 Analyzed: 10/24/2010						
Aluminum	7340	13.9	mg/kg wet	6766.6		108	0-225.5		
Antimony	68.3	1.67	mg/kg wet	56.630		121	0-225.6		
Arsenic	118	2.78	mg/kg wet	113.85		104	85-115		
Barium	308	1.39	mg/kg wet	298.35		103	75.7-124.3		
Beryllium	109	0.556	mg/kg wet	108.32		101	85.2-114.8		
Boron	87.1	5.56	mg/kg wet	86.580		101	68.5-131.6		
Cadmium	234	0.556	mg/kg wet	224.09		104	84.9-115.1		
Calcium	3340	278	mg/kg wet	3305.9		101	82.8-117.2		
Chromium	82.7	0.556	mg/kg wet	77.590		107	76.8-123.2		
Cobalt	171	5.56	mg/kg wet	163.19		105	79.4-120.6		
Copper	272	2.78	mg/kg wet	265.65		103	82.4-117.6		
Iron	8660	55.6	mg/kg wet	8202.8		106	78.9-121.1		
Lead	190	1.39	mg/kg wet	187.62		101	81.5-118.5		
Magnesium	8540	208	mg/kg wet	8352.3		102	84.2-115.8		
Manganese	888	13.9	mg/kg wet	951.35		93	69-131		
Molybdenum	257	5.56	mg/kg wet	234.78		110	80.1-119.9		
Nickel	231	11.1	mg/kg wet	220.85		105	81.4-118.6		
Potassium	14800	1110	mg/kg wet	14177		104	85.7-114.3		
Selenium	189	0.833	mg/kg wet	187.99		100	78.8-121.2		
Silicon	909	5.56	mg/kg wet	939.78		97	0-272.3		
Silver	83.3	0.556	mg/kg wet	83.960		99	81.9-118.1		

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	12/22/2010 07:00

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 L010317 - SW 3050B									
Reference (L010317-SRM1)			Prepared: 10/22/2010 Analyzed: 10/24/2010						
Sodium	9550	139	mg/kg wet	9587.1		100	83.5-116.4		
Vanadium	107	6.94	mg/kg wet	97.430		110	75.8-124.2		
Zinc	201	27.8	mg/kg wet	196.52		102	78.9-121.1		

Lionville Laboratory **Logbook #:** 829

SAMPLE DIGESTION RECORD

Digestion Batch #: L010317
Date/Time Initiated: 10/22/10 1035
Date/Time Completed: 10/22/10 1645
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: 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
1010098-01		0.55	50		TO	Fine	Brown	Rocks	N/A
L010317-Dup1		0.54	50						
-MS1	0.5	0.57	50						
1010098-02		0.63	50			Fine	Brown	Rocks	
-03		0.62	50			Fine	Brown	Rocks	
1010061-01		0.57	50			Fine	Brown		
L010317-Dup2		0.73	50						
-MS2	0.5	0.69	50						
-MB1		0.76	50			Coarse	Boiling Chips		
-SM1		0.54	50			Fine	Dusty grey sand		

JJS
10/22/10

Spiking IDs / Expiration Date:
MS#: 8100-04 -07
-08
-09
6078 087.14
LCS#: 1001320

Reagent IDs:
HNO_3 319023
HCl 318041
H_2O_2 H08300
1:1 HNO_3 632-028-07
1:1 HCl

File ID#:

Data Review By / Date: 10/25/10

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

Page #:

Lionville Laboratory

MERCURY PREPARATION

Logbook # 824

Analyst: [illegible]
Date 10/21/10 - digested 10/22/10
Start Time/Temp: 1320/96°
End Time/Temp: 1410/98°

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

Prep Batch: L010306
Worksheet: HG102507
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.
blank2				10 ml	50	
0.200 µg/L		0.100		10 ml	50	
1.0 µg/L		0.500		10 ml	50	
2.0 µg/L		1.000		10 ml	50	
5.0 µg/L		2.500		10 ml	50	
10.0 µg/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	
L010306-~~DUP1~~ BK1				0.30	50	
BRM1				0.34	50	
1010058-01				0.38	50	
02				0.35	50	
03				0.39	50	
L010306-DUP1				0.36	50	
MS1		0.500	1.0	0.35	50	
1010059-01				0.33	50	
L010306-DUP2				0.36	50	
MS2		0.500	1.0	0.37	50	
1010059-02				0.37	50	
03				0.38	50	
1010061-01				0.34	50	
L010306-DUP3				0.35	50	
MS3		0.500	1.0	0.36	50	
1010084-01				0.36	50	RAD
L010306-DUP4				0.37	50	↓
MS4		0.500	1.0	0.37	50	↓

Standard:	ID	Prep Date/Time
ICAL/MS	RI 0101985B	
ICV/CCV/LCS	IV 0902267A	

Reviewed By/Date: [illegible] 10/26/10

se book # 968 for std traceability information

Soil LCS True Value = 1.26 mg/Kg
Standard # 1001320

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

A

ME-HgCVAA-Prep0910

Page #:

Lionville Laboratory

MERCURY PREPARATION

Logbook # 824

Analyst: [illegible]
Date 10/21/10 - digested 10/22/10
Start Time/Temp: See page 041
End Time/Temp: See page 041

Instrument ID: Hg3.1
Balance # B29 /NA
Pipette Calibration (Daily) (Y) ____

Prep Batch: L010306
Worksheet: HG102507
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.
1010084-02				0.35	50	
1010093-01				0.37	50	
L010306-DUP5				0.37	50	
MS5		0.500	1.0	0.37	50	

pw 10/21/10

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

Reviewed By/Date: [illegible] 10/26/10

se book # ____ for std traceability information

Soil LCS True Value = See page 041 mg/Kg
Standard # ____

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

A

ME-HgCVAA-Prep0910

Page #:

[illegible]12

Lionville Laboratory Logbook # 763

% SOLID / % MOISTURE ANALYSIS RECORD

Analyst: Cas
Start Date/Time/Temp: 10/15/10 1330 105
End Date/ Time/Temp: 10/18/10 720 105
Balance ID: 19-5

Method: WC-160.6
Worksheet: XSOL1015
Prep Batch: 10L%S094
Promium Batch: LD10224

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
1010058-03	1.338	8.201	8.037	97.61	
1010059-01	1.313	8.358	8.142	96.93	
02	1.321	9.337	9.063	96.58	
03	1.336	8.981	8.970	99.86	
1010060-01	1.331	9.019	8.680	95.59	
01R	1.320	8.672	8.374	95.95	
1010061-01	1.327	7.605	6.831	87.64	
01R	1.325	8.507	7.527	86.35	
1010064-01	1.329	8.916	8.588	95.68	
01R	1.323	8.285	7.963	95.37	
1010065-01	1.328	8.842	8.656	97.52	
02	1.324	8.784	8.590	97.40	
03	1.327	8.471	8.186	96.01	
04	1.315	8.647	8.319	95.53	
05	1.321	8.284	8.039	96.48	
06	1.329	8.585	8.318	96.32	
07	1.328	8.297	8.012	95.91	
08	1.336	7.014	~~6.995~~ Cas 10/15/10 7.002	99.79	

Cas 10/15/10

"R" = replicate, "wt" = weight" * WE. Cas 10/15/10

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: Mariya Jak 10/18/10

Page #

000000013

Lionville Laboratory Use Only

1010061

Revision

Custody Transfer Record/Lab Work Request

Page 1 of 1

SAC SAC

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: WC Hanford SAF# RC-182

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: O.J.

QC: SW Del: STD TAT: 15 days

Date Rec'd: 10-13-10 Date Due: 10-28-10

		A				B			C			D						
Refrigerator #		2				2			2			2						
#/Type Container	~~Liquid~~ Solid	1AG				1AG			1AG			1AG						
Volume		120				120			120			120						
Preservatives		—				—			—			—						
ANALYSES REQUESTED		ORGANIC							INORG									
		VOA	BNA	Pest/PCB	Herb	TCLP SEMI VOA			Metal Hg	CN		TCLP Met	TCLP Hg					
			8270C			TCLP 8270T	cancelled WK 12-21-10		MeA①			TCLP CORR		same as WK 12-21-10				

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	VOA	BNA	Pest/PCB	Herb	TCLP SEMI VOA			Metal Hg	CN	TCLP Met	TCLP Hg					
01	J1CCL3	✓	✓	Soil	10-7-10	0930		X			X			X		X	X					

Special Instructions:

MeA① = HSL + B, Mo, Si
NO TL

Special Instructions:

1. Leach and Hold TCLP per Joan Kessner
2. 12-21-10 Leachates cancelled per Client. WO
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Fed Ex	[signature]	10/8/10	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN			

3999999114

Lionville Laboratory Use Only: 1010061

Custody Transfer Record/Lab Work Request

Page 1 of 1

SAC SAB

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: WC Hanford SAF# RC-182

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: O.J.

QC: SW Del: SVD TAT: 15 days

Date Rec'd: 10-13-10 Date Due: 10-28-10

		A				B			C			D					
Refrigerator #		2				2			2			2					
#/Type Container	~~Liquid~~ Solid	1AG				1AG			1AG			1AG					
Volume		120				120			160			120					
Preservatives		—				—			—			—					
ANALYSES REQUESTED		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb	TCLP SEMI VOA			Metal Hg	CN		TCLP MET	TCLP Hg				
		Lionville Laboratory Use Only															
			8270C			TCLP 8270T			Metals			TCLP RCRA					

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected													
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	01	J1CCL3	✓	✓	Soil	10-7-10	0930		X			X			X	X				

Special Instructions:

Metals (1) = HSL + B, Mo, Si
NO TL

Special Instructions:

1. Leach and Hold TCLP per Joan Kessner
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Fed Ex	[signature]	10/8/10	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN			

99999815

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-182-010	Page 1 of 1

Collector D. Henjum / Z Leach	Company Contact S. Van Den Hende	Telephone No. 509-551-3934	Project Coordinator KESSNER, JH	Price Code ~~8L~~ 8K 10/7/10	Data Turnaround ~~21 Days~~ 15 Days SU 10/7/10
Project Designation ARRA 100F Remaining Sites Remediation - Soil In-Process	Sampling Location SU 10/7/10 ~~100-F-57 Water Pumphouse Debris Pethole~~ 100-F-49		SAF No. RC-182		
Ice Chest No. WCH-11-009	Field Logbook No. EL-1651	COA S00F578100	Method of Shipment FEDEX		
Shipped To EBERLINE SERVICES/ LIONVILLE	Offsite Property No. A100559		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

~~None~~ Potential Rad < Dot Limits
10-12-10

Special Handling and/or Storage

Cool 4 Degrees C

Preservation	Cool 4C	None	Cool 4C	None	None	
Type of Container	aG	aG	aG	aG	Snap Vial	
No. of Container(s)	1	1	1	1	1	
Volume	120mL	120mL	120mL	120mL	60mL	
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	TCLP Semi-VOA - 1311/8270A	RCF GEA Shipping Screen	

SU 10/7/10

Sample No.	Matrix *	Sample Date	Sample Time					
J1CCL0	~~SOIL~~							
J1CCL1	SOIL							
J1CCL2	SOIL							
J1CCL3	SOIL	10-7-10	0930	✓	✓	✓	✓	
~~J1CCL4~~	~~SOIL~~ SU 10/7/10							

SU 10/7/10

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Zac Leach	10/7/10 0945	S. Van Den Hende	10/7/10 0945
S. Van Den Hende	10/7/10 0955	JR DeBuique JR DeBuique	10/7/10 0955
JR DeBuique JR DeBuique	10/7/10 1315	J. E. Bentel	10-7-10 1315
J. E. Bentel WCH	10-12-10 0830	FED EX	
FED EX	10-13-10 0940	VICTOR HERNANDEZ	10-13-10 0940
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Leach and hold TCLP per 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) {Mercury}

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

REVIEWED BY JR
DATE 10/12/10

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

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 Hanford
Project/SAF/SOW/Release #: RC-182

Date: 10/13/10

LvL Batch #: 1010 061

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7940 0153 7787
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.1	°C	Cooler # WCH-11-009
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify)
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact. signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvL) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no. then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA. TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☑ Yes	☐ No	☐ N/A
15. Shipment meets LvL Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A
Person Contacted _____		Date _____	

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

RECEIVED

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/29/2010 09:12

Analytical Report for Semivolatile Organic Compounds by SW846 8270C

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1CCL3	1010061-01	Soil	10/07/2010 09:30	10/13/2010 09:40

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-182 K2451
LVL #: 1010061

W.O. #: 60049-001-001-0001-00
Date Received: 10-13-2010

SEMIVOLATILE

One (1) soil sample was collected on 10-07-2010.

The sample and associated QC samples were extracted 10-19-2010 and analyzed 10-21,23-2010 according to Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3540C, and the analysis procedure was based on SW846 Method 8270C for TCL Semivolatile target compounds.

Lionville Laboratory (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. LvL certifies that all test results meet the requirements of NELAC with any exception noted in the following statements:

1. The results presented in this report are derived from a sample(s) that met LvL's sample acceptance policy.
2. The sample was extracted and analyzed within holding time.
3. Non-target compounds were detected in these samples.
4. All obtainable surrogate recoveries were within acceptance criteria.
5. The method blank was below the reporting limit for all target compounds.
6. Two (2) of sixty-four (64) blank spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR# 10MS305) has been enclosed.
7. All matrix spike recoveries were within acceptance criteria.
8. The sample was reported on a dry weight basis.
9. All initial calibrations associated with this data set were within acceptance criteria.
10. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
11. Internal standard area and retention time criteria were met.

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 24 pages.

12. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").

13. 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 hardcopy package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Iain Daniels
LvL Laboratory Manager

11/1/10
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 10MS305

Initiator: Shawn Saylor
Date: 10-28-10
Client: Wellington RC-182

Batch: 1010061
Samples: BS
Method: SW846/MCAWW/CLP/

Parameter: 8270
Matrix: SOIL
Prep Batch: L010265

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

Spikes out QC acceptance Limits in BS but MS + MSD are OK (2,4dinitrophenol, pentachlorophenol)

RECHECKED

2. Known or Probable Causes(s) Acidic phenols subject to erratic chromatographic behavior

3. Discussion and Proposed Action Other Description:

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

narrate Samples all non detects no important analytes

4. Project Manager Instructions...signature/date: _____ 11/1/10
__ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: Catherine Carey / 10/31/10 Other Explanation:
__ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA for diposition.

Route
__ Lab Manager: Daniels
__ Project Mgr (circle): Johnson / Stone
__ Sample Prep (circle): Ford
__ Log-in: King

Route
__ Metals: Welsh / _____
__ Inorganic: Perrone / _____
__ GC/LC: Carey / _____
__ MS VOA: Rubino / _____
__ MS BNA: Carden / _____
__ Other: _____

QA-139-A-0208

GLOSSARY

DATA QUALIFIERS

U = Indicates that the compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.

J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concetration of 3 ug/L is calculated, it is reported as 3J.

B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.

E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

A = Indicates that a TIC is a suspected aldol-condensation product.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP	-	Missed Peak: Manually added peak not found by automatic quan program.
PA	-	Peak Assignment: quan report was changed to reflect correct peak assignment.
RI	-	Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.
SP	-	Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.
CB	-	Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal., or other interference.
PI	-	Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/29/2010 09:12

J1CCL3

1010061-01 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Semivolatile Organic Compounds by SW846 8270C								
1,2,4-Trichlorobenzene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
1,2-Dichlorobenzene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
1,3-Dichlorobenzene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
1,4-Dichlorobenzene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2,4,5-Trichlorophenol	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2,4,6-Trichlorophenol	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2,4-Dichlorophenol	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2,4-Dimethylphenol	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2,4-Dinitrophenol	1880 U	1880	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2,4-Dinitrotoluene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2,6-Dinitrotoluene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2-Chloronaphthalene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2-Chlorophenol	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2-Methylnaphthalene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2-Methylphenol	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2-Nitroaniline	1880 U	1880	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
2-Nitrophenol	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
3,3'-Dichlorobenzidine	752 U	752	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
3-Nitroaniline	1880 U	1880	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
4,6-Dinitro-2-methylphenol	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
4-Bromophenyl Phenyl Ether	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
4-Chloro-3-methylphenol	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
4-Chloroaniline	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
4-Chlorophenyl Phenyl Ether	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
3- and/or 4-Methylphenol	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
4-Nitroaniline	1880 U	1880	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
4-Nitrophenol	1880 U	1880	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Acenaphthene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Acenaphthylene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Anthracene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Benz[a]anthracene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Benzo[a] pyrene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Benzo[b] fluoranthene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Benzo[g,h,i] perylene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Benzo[k] fluoranthene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Bis(2-chloroethoxy) methane	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Bis(2-chloroethyl) ether	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Bis(2-chloroisopropyl) ether	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Bis(2-ethylhexyl) phthalate	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/29/2010 09:12

J1CCL3

1010061-01 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Semivolatile Organic Compounds by SW846 8270C								
Butyl Benzyl Phthalate	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Carbazole	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Chrysene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Dibenz[a,h]anthracene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Dibenzofuran	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Diethyl Phthalate	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Dimethyl Phthalate	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Di-n-butyl Phthalate	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Di-n-octyl Phthalate	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Fluoranthene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Fluorene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Hexachlorobenzene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Hexachlorobutadiene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Hexachlorocyclopentadiene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Hexachloroethane	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Indeno[1,2,3-cd]pyrene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Isophorone	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Naphthalene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Nitrobenzene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
N-Nitrosodi-n-propylamine	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
N-Nitrosodiphenylamine	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Pentachlorophenol	1880 U	1880	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Phenanthrene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Phenol	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Pyrene	376 U	376	ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
TIC:Aldol 1	**258** A, B, J		ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
TIC:Aldol 2	**35000** A, B, J		ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
TIC:Unknown 1	**742** B, J		ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
TIC:Unknown 2	**256** J		ug/kg dry	1	L010265	10/19/2010	10/23/2010	8270C
Surrogate: 2-Fluorophenol	*41 %*	*25-121*			*L010265*	*10/19/2010*	*10/23/2010*	*8270C*
Surrogate: Phenol-d5	*42 %*	*24-113*			*L010265*	*10/19/2010*	*10/23/2010*	*8270C*
Surrogate: Nitrobenzene-d5	*40 %*	*23-120*			*L010265*	*10/19/2010*	*10/23/2010*	*8270C*
Surrogate: 2-Fluorobiphenyl	*36 %*	*30-115*			*L010265*	*10/19/2010*	*10/23/2010*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*30 %*	*19-122*			*L010265*	*10/19/2010*	*10/23/2010*	*8270C*
Surrogate: p-Terphenyl-d14	*66 %*	*18-137*			*L010265*	*10/19/2010*	*10/23/2010*	*8270C*

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/29/2010 09:12

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L010265 - SW 3540C									
Blank (L010265-BLK1)			Prepared: 10/19/2010 Analyzed: 10/21/2010						
1,2,4-Trichlorobenzene	330 U	330	ug/kg wet						
1,2-Dichlorobenzene	330 U	330	ug/kg wet						
1,3-Dichlorobenzene	330 U	330	ug/kg wet						
1,4-Dichlorobenzene	330 U	330	ug/kg wet						
2,4,5-Trichlorophenol	330 U	330	ug/kg wet						
2,4,6-Trichlorophenol	330 U	330	ug/kg wet						
2,4-Dichlorophenol	330 U	330	ug/kg wet						
2,4-Dimethylphenol	330 U	330	ug/kg wet						
2,4-Dinitrophenol	1650 U	1650	ug/kg wet						
2,4-Dinitrotoluene	330 U	330	ug/kg wet						
2,6-Dinitrotoluene	330 U	330	ug/kg wet						
2-Chloronaphthalene	330 U	330	ug/kg wet						
2-Chlorophenol	330 U	330	ug/kg wet						
2-Methylnaphthalene	330 U	330	ug/kg wet						
2-Methylphenol	330 U	330	ug/kg wet						
2-Nitroaniline	1650 U	1650	ug/kg wet						
2-Nitrophenol	330 U	330	ug/kg wet						
3,3'-Dichlorobenzidine	660 U	660	ug/kg wet						
3-Nitroaniline	1650 U	1650	ug/kg wet						
4,6-Dinitro-2-methylphenol	330 U	330	ug/kg wet						
4-Bromophenyl Phenyl Ether	330 U	330	ug/kg wet						
4-Chloro-3-methylphenol	330 U	330	ug/kg wet						
4-Chloroaniline	330 U	330	ug/kg wet						
4-Chlorophenyl Phenyl Ether	330 U	330	ug/kg wet						
3- and/or 4-Methylphenol	330 U	330	ug/kg wet						
4-Nitroaniline	1650 U	1650	ug/kg wet						
4-Nitrophenol	1650 U	1650	ug/kg wet						
Acenaphthene	330 U	330	ug/kg wet						
Acenaphthylene	330 U	330	ug/kg wet						
Anthracene	330 U	330	ug/kg wet						
Benz[a]anthracene	330 U	330	ug/kg wet						
Benzo[a] pyrene	330 U	330	ug/kg wet						
Benzo[b] fluoranthene	330 U	330	ug/kg wet						
Benzo[g,h,i] perylene	330 U	330	ug/kg wet						
Benzo[k] fluoranthene	330 U	330	ug/kg wet						
Bis(2-chloroethoxy) methane	330 U	330	ug/kg wet						

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-182 Project Number: K2451 Project Manager: Joan Kessner	**Reported:** 10/29/2010 09:12

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L010265 - SW 3540C									
Blank (L010265-BLK1)			Prepared: 10/19/2010 Analyzed: 10/21/2010						
Bis(2-chloroethyl) ether	330 U	330	ug/kg wet						
Bis(2-chloroisopropyl) ether	330 U	330	ug/kg wet						
Bis(2-ethylhexyl) phthalate	330 U	330	ug/kg wet						
Butyl Benzyl Phthalate	330 U	330	ug/kg wet						
Carbazole	330 U	330	ug/kg wet						
Chrysene	330 U	330	ug/kg wet						
Dibenz[a,h]anthracene	330 U	330	ug/kg wet						
Dibenzofuran	330 U	330	ug/kg wet						
Diethyl Phthalate	330 U	330	ug/kg wet						
Dimethyl Phthalate	330 U	330	ug/kg wet						
Di-n-butyl Phthalate	330 U	330	ug/kg wet						
Di-n-octyl Phthalate	330 U	330	ug/kg wet						
Fluoranthene	330 U	330	ug/kg wet						
Fluorene	330 U	330	ug/kg wet						
Hexachlorobenzene	330 U	330	ug/kg wet						
Hexachlorobutadiene	330 U	330	ug/kg wet						
Hexachlorocyclopentadiene	330 U	330	ug/kg wet						
Hexachloroethane	330 U	330	ug/kg wet						
Indeno[1,2,3-cd]pyrene	330 U	330	ug/kg wet						
Isophorone	330 U	330	ug/kg wet						
Naphthalene	330 U	330	ug/kg wet						
Nitrobenzene	330 U	330	ug/kg wet						
N-Nitrosodi-n-propylamine	330 U	330	ug/kg wet						
N-Nitrosodiphenylamine	330 U	330	ug/kg wet						
Pentachlorophenol	1650 U	1650	ug/kg wet						
Phenanthrene	330 U	330	ug/kg wet						
Phenol	330 U	330	ug/kg wet						
Pyrene	330 U	330	ug/kg wet						
Aldol 2 (TIC)	81700 A, J		ug/kg wet						
Aldol 1	443 A, J		ug/kg wet						
Unknown 1	925 J		ug/kg wet						
Surrogate: 2-Fluorophenol	*1300*		*ug/kg wet*	*2500.0*		*52*	*25-121*		
Surrogate: Phenol-d5	*1400*		*ug/kg wet*	*2500.0*		*56*	*24-113*		
Surrogate: Nitrobenzene-d5	*1080*		*ug/kg wet*	*1666.7*		*65*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*1010*		*ug/kg wet*	*1666.7*		*61*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*723*		*ug/kg wet*	*2500.0*		*29*	*19-122*		
Surrogate: p-Terphenyl-d14	*1300*		*ug/kg wet*	*1666.7*		*78*	*18-137*		

Rev 10/29/10

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/29/2010 09:12

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L010265 - SW 3540C									
LCS (L010265-BS1)			Prepared: 10/19/2010 Analyzed: 10/21/2010						
1,2,4-Trichlorobenzene	1040	330	ug/kg wet	2000.0		52	45-110		
1,2-Dichlorobenzene	1400	330	ug/kg wet	2000.0		70	45-105		
1,3-Dichlorobenzene	1340	330	ug/kg wet	2000.0		67	40-100		
1,4-Dichlorobenzene	1360	330	ug/kg wet	2000.0		68	35-105		
2,4,5-Trichlorophenol	1310	330	ug/kg wet	2000.0		65	30-140		
2,4,6-Trichlorophenol	1120	330	ug/kg wet	2000.0		56	20-110		
2,4-Dichlorophenol	1110	330	ug/kg wet	2000.0		55	40-110		
2,4-Dimethylphenol	1000	330	ug/kg wet	2000.0		50	30-105		
2,4-Dinitrophenol	346 J	1650	ug/kg wet	2000.0		17*	25-130		
2,4-Dinitrotoluene	1620	330	ug/kg wet	2000.0		81	50-115		
2,6-Dinitrotoluene	1560	330	ug/kg wet	2000.0		78	40-120		
2-Chloronaphthalene	1360	330	ug/kg wet	2000.0		68	45-115		
2-Chlorophenol	1350	330	ug/kg wet	2000.0		68	45-105		
2-Methylnaphthalene	1150	330	ug/kg wet	2000.0		58	45-110		
2-Methylphenol	1410	330	ug/kg wet	2000.0		70	40-120		
2-Nitroaniline	1770	1650	ug/kg wet	2000.0		88	45-120		
2-Nitrophenol	1080	330	ug/kg wet	2000.0		54	40-110		
3,3'-Dichlorobenzidine	1190	660	ug/kg wet	2000.0		60	15-130		
3-Nitroaniline	1430 J	1650	ug/kg wet	2000.0		71	40-130		
4,6-Dinitro-2-methylphenol	519	330	ug/kg wet	2000.0		26	20-140		
4-Bromophenyl Phenyl Ether	1350	330	ug/kg wet	2000.0		67	45-115		
4-Chloro-3-methylphenol	1190	330	ug/kg wet	2000.0		59	35-115		
4-Chloroaniline	865	330	ug/kg wet	2000.0		43	10-100		
4-Chlorophenyl Phenyl Ether	1430	330	ug/kg wet	2000.0		71	45-110		
3- and/or 4-Methylphenol	1440	330	ug/kg wet	2000.0		72	40-120		
4-Nitroaniline	1420 J	1650	ug/kg wet	2000.0		71	40-130		
4-Nitrophenol	1220 J	1650	ug/kg wet	2000.0		61	15-140		
Acenaphthene	1430	330	ug/kg wet	2000.0		72	45-110		
Acenaphthylene	1450	330	ug/kg wet	2000.0		72	45-115		
Anthracene	1510	330	ug/kg wet	2000.0		75	45-130		
Benz[a]anthracene	1480	330	ug/kg wet	2000.0		74	45-130		
Benzo[a] pyrene	1470	330	ug/kg wet	2000.0		74	45-130		
Benzo[b] fluoranthene	1450	330	ug/kg wet	2000.0		73	40-130		
Benzo[g,h,i] perylene	1500	330	ug/kg wet	2000.0		75	45-125		
Benzo[k] fluoranthene	1380	330	ug/kg wet	2000.0		69	45-125		
Bis(2-chloroethoxy) methane	1240	330	ug/kg wet	2000.0		62	45-110		

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/29/2010 09:12

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L010265 - SW 3540C									
LCS (L010265-BS1)			Prepared: 10/19/2010 Analyzed: 10/21/2010						
Bis(2-chloroethyl) ether	1500	330	ug/kg wet	2000.0		75	40-110		
Bis(2-chloroisopropyl) ether	1480	330	ug/kg wet	2000.0		74	30-115		
Bis(2-ethylhexyl) phthalate	1570	330	ug/kg wet	2000.0		79	40-145		
Butyl Benzyl Phthalate	1620	330	ug/kg wet	2000.0		81	50-125		
Carbazole	1490	330	ug/kg wet	2000.0		75	40-140		
Chrysene	1480	330	ug/kg wet	2000.0		74	45-130		
Dibenz[a,h]anthracene	1510	330	ug/kg wet	2000.0		75	45-125		
Dibenzofuran	1440	330	ug/kg wet	2000.0		72	45-120		
Diethyl Phthalate	1620	330	ug/kg wet	2000.0		81	50-125		
Dimethyl Phthalate	1570	330	ug/kg wet	2000.0		78	45-130		
Di-n-butyl Phthalate	1550	330	ug/kg wet	2000.0		78	50-130		
Di-n-octyl Phthalate	1560	330	ug/kg wet	2000.0		78	40-150		
Fluoranthene	1590	330	ug/kg wet	2000.0		80	45-130		
Fluorene	1510	330	ug/kg wet	2000.0		76	45-120		
Hexachlorobenzene	1240	330	ug/kg wet	2000.0		62	45-130		
Hexachlorobutadiene	1170	330	ug/kg wet	2000.0		58	45-105		
Hexachlorocyclopentadiene	760	330	ug/kg wet	2000.0		38	10-100		
Hexachloroethane	1340	330	ug/kg wet	2000.0		67	35-110		
Indeno[1,2,3-cd]pyrene	1530	330	ug/kg wet	2000.0		76	45-130		
Isophorone	1130	330	ug/kg wet	2000.0		57	40-110		
Naphthalene	1100	330	ug/kg wet	2000.0		55	40-110		
Nitrobenzene	1200	330	ug/kg wet	2000.0		60	40-105		
N-Nitrosodi-n-propylamine	1620	330	ug/kg wet	2000.0		81	30-130		
N-Nitrosodiphenylamine	1410	330	ug/kg wet	2000.0		71	50-120		
Pentachlorophenol	272 J	1650	ug/kg wet	2000.0		14*	25-120		
Phenanthrene	1460	330	ug/kg wet	2000.0		73	50-120		
Phenol	1400	330	ug/kg wet	2000.0		70	40-115		
Pyrene	1450	330	ug/kg wet	2000.0		73	45-125		
Surrogate: 2-Fluorophenol	*1390*		*ug/kg wet*	*2500.0*		*56*	*25-121*		
Surrogate: Phenol-d5	*1500*		*ug/kg wet*	*2500.0*		*60*	*24-113*		
Surrogate: Nitrobenzene-d5	*893*		*ug/kg wet*	*1666.7*		*54*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*1000*		*ug/kg wet*	*1666.7*		*60*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*827*		*ug/kg wet*	*2500.0*		*33*	*19-122*		
Surrogate: p-Terphenyl-d14	*1150*		*ug/kg wet*	*1666.7*		*69*	*18-137*		

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/29/2010 09:12

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L010265 - SW 3540C									
Matrix Spike (L010265-MS4)	**Source: 1010061-01**	Prepared: 10/19/2010 Analyzed: 10/23/2010							
1,2,4-Trichlorobenzene	1070	353	ug/kg dry	2136.7	376 U	50	45-110		
1,2-Dichlorobenzene	1220	353	ug/kg dry	2136.7	376 U	57	45-105		
1,3-Dichlorobenzene	1010	353	ug/kg dry	2136.7	376 U	47	40-100		
1,4-Dichlorobenzene	1060	353	ug/kg dry	2136.7	376 U	50	35-105		
2,4,5-Trichlorophenol	1270	353	ug/kg dry	2136.7	376 U	60	30-140		
2,4,6-Trichlorophenol	908	353	ug/kg dry	2136.7	376 U	42	20-110		
2,4-Dichlorophenol	1170	353	ug/kg dry	2136.7	376 U	55	40-110		
2,4-Dimethylphenol	1230	353	ug/kg dry	2136.7	376 U	57	30-105		
2,4-Dinitrophenol	2480	1760	ug/kg dry	2136.7	1880 U	116	25-130		
2,4-Dinitrotoluene	1580	353	ug/kg dry	2136.7	376 U	74	50-115		
2,6-Dinitrotoluene	1510	353	ug/kg dry	2136.7	376 U	71	40-120		
2-Chloronaphthalene	1510	353	ug/kg dry	2136.7	376 U	71	45-115		
2-Chlorophenol	1230	353	ug/kg dry	2136.7	376 U	58	45-105		
2-Methylnaphthalene	1170	353	ug/kg dry	2136.7	376 U	55	45-110		
2-Methylphenol	1570	353	ug/kg dry	2136.7	376 U	73	40-120		
2-Nitroaniline	1420 J	1760	ug/kg dry	2136.7	1880 U	66	45-120		
2-Nitrophenol	1080	353	ug/kg dry	2136.7	376 U	51	40-110		
3,3'-Dichlorobenzidine	1070	705	ug/kg dry	2136.7	752 U	50	15-130		
3-Nitroaniline	1210 J	1760	ug/kg dry	2136.7	1880 U	57	40-130		
4,6-Dinitro-2-methylphenol	1860	353	ug/kg dry	2136.7	376 U	87	20-140		
4-Bromophenyl Phenyl Ether	1620	353	ug/kg dry	2136.7	376 U	76	45-115		
4-Chloro-3-methylphenol	1050	353	ug/kg dry	2136.7	376 U	49	35-115		
4-Chloroaniline	682	353	ug/kg dry	2136.7	376 U	32	10-100		
4-Chlorophenyl Phenyl Ether	1640	353	ug/kg dry	2136.7	376 U	77	45-110		
3- and/or 4-Methylphenol	1280	353	ug/kg dry	2136.7	376 U	60	40-120		
4-Nitroaniline	1210 J	1760	ug/kg dry	2136.7	1880 U	57	40-130		
4-Nitrophenol	844 J	1760	ug/kg dry	2136.7	1880 U	40	15-140		
Acenaphthene	1520	353	ug/kg dry	2136.7	376 U	71	45-110		
Acenaphthylene	1550	353	ug/kg dry	2136.7	376 U	72	45-115		
Anthracene	1580	353	ug/kg dry	2136.7	376 U	74	45-130		
Benz[a]anthracene	1460	353	ug/kg dry	2136.7	376 U	68	45-130		
Benzo[a] pyrene	1490	353	ug/kg dry	2136.7	376 U	70	45-130		
Benzo[b] fluoranthene	1530	353	ug/kg dry	2136.7	376 U	72	40-130		
Benzo[g,h,i] perylene	1310	353	ug/kg dry	2136.7	376 U	61	45-125		
Benzo[k] fluoranthene	1570	353	ug/kg dry	2136.7	376 U	73	45-125		
Bis(2-chloroethoxy) methane	1150	353	ug/kg dry	2136.7	376 U	54	45-110		

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

WC-Hanford, Inc.	Project: RC-182	
2620 Fermi Avenue	Project Number: K2451	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	10/29/2010 09:12

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L010265 - SW 3540C									
Matrix Spike (L010265-MS4)	**Source: 1010061-01**	Prepared: 10/19/2010 Analyzed: 10/23/2010							
Bis(2-chloroethyl) ether	1200	353	ug/kg dry	2136.7	376 U	56	40-110		
Bis(2-chloroisopropyl) ether	1120	353	ug/kg dry	2136.7	376 U	52	30-115		
Bis(2-ethylhexyl) phthalate	1350	353	ug/kg dry	2136.7	376 U	63	40-145		
Butyl Benzyl Phthalate	1250	353	ug/kg dry	2136.7	376 U	58	50-125		
Carbazole	1470	353	ug/kg dry	2136.7	376 U	69	40-140		
Chrysene	1440	353	ug/kg dry	2136.7	376 U	67	45-130		
Dibenz[a,h]anthracene	1480	353	ug/kg dry	2136.7	376 U	69	45-125		
Dibenzofuran	1580	353	ug/kg dry	2136.7	376 U	74	45-120		
Diethyl Phthalate	1640	353	ug/kg dry	2136.7	376 U	77	50-125		
Dimethyl Phthalate	1600	353	ug/kg dry	2136.7	376 U	75	45-130		
Di-n-butyl Phthalate	1610	353	ug/kg dry	2136.7	376 U	75	50-130		
Di-n-octyl Phthalate	1430	353	ug/kg dry	2136.7	376 U	67	40-150		
Fluoranthene	1610	353	ug/kg dry	2136.7	376 U	75	45-130		
Fluorene	1690	353	ug/kg dry	2136.7	376 U	79	45-120		
Hexachlorobenzene	1680	353	ug/kg dry	2136.7	376 U	79	45-130		
Hexachlorobutadiene	1310	353	ug/kg dry	2136.7	376 U	61	45-105		
Hexachlorocyclopentadiene	1130	353	ug/kg dry	2136.7	376 U	53	10-100		
Hexachloroethane	973	353	ug/kg dry	2136.7	376 U	46	35-110		
Indeno[1,2,3-cd]pyrene	1430	353	ug/kg dry	2136.7	376 U	67	45-130		
Isophorone	1040	353	ug/kg dry	2136.7	376 U	49	40-110		
Naphthalene	1180	353	ug/kg dry	2136.7	376 U	55	40-110		
Nitrobenzene	1100	353	ug/kg dry	2136.7	376 U	51	40-105		
N-Nitrosodi-n-propylamine	1400	353	ug/kg dry	2136.7	376 U	66	30-130		
N-Nitrosodiphenylamine	1430	353	ug/kg dry	2136.7	376 U	67	50-120		
Pentachlorophenol	1440 J	1760	ug/kg dry	2136.7	1880 U	67	25-120		
Phenanthrene	1520	353	ug/kg dry	2136.7	376 U	71	50-120		
Phenol	1280	353	ug/kg dry	2136.7	376 U	60	40-115		
Pyrene	1260	353	ug/kg dry	2136.7	376 U	59	45-125		
Surrogate: 2-Fluorophenol	*1430*		*ug/kg dry*	*2670.8*		*54*	*25-121*		
Surrogate: Phenol-d5	*1560*		*ug/kg dry*	*2670.8*		*58*	*24-113*		
Surrogate: Nitrobenzene-d5	*910*		*ug/kg dry*	*1780.6*		*51*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*1260*		*ug/kg dry*	*1780.6*		*71*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*1340*		*ug/kg dry*	*2670.8*		*50*	*19-122*		
Surrogate: p-Terphenyl-d14	*1300*		*ug/kg dry*	*1780.6*		*73*	*18-137*		

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-182 Project Number: K2451 Project Manager: Joan Kessner	**Reported:** 10/29/2010 09:12

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L010265 - SW 3540C									
Matrix Spike Dup (L010265-MSD4)	**Source: 1010061-01**	Prepared: 10/19/2010 Analyzed: 10/23/2010							
1,2,4-Trichlorobenzene	1160	374	ug/kg dry	2263.9	376 U	51	45-110	3	40
1,2-Dichlorobenzene	1290	374	ug/kg dry	2263.9	376 U	57	45-105	0.02	40
1,3-Dichlorobenzene	1040	374	ug/kg dry	2263.9	376 U	46	40-100	3	40
1,4-Dichlorobenzene	1110	374	ug/kg dry	2263.9	376 U	49	35-105	1	40
2,4,5-Trichlorophenol	1780	374	ug/kg dry	2263.9	376 U	79	30-140	28	40
2,4,6-Trichlorophenol	1540	374	ug/kg dry	2263.9	376 U	68	20-110	46*	40
2,4-Dichlorophenol	1370	374	ug/kg dry	2263.9	376 U	60	40-110	10	40
2,4-Dimethylphenol	1300	374	ug/kg dry	2263.9	376 U	57	30-105	0.04	40
2,4-Dinitrophenol	1780 J	1870	ug/kg dry	2263.9	1880 U	79	25-130	39	40
2,4-Dinitrotoluene	1880	374	ug/kg dry	2263.9	376 U	83	50-115	12	40
2,6-Dinitrotoluene	1790	374	ug/kg dry	2263.9	376 U	79	40-120	11	40
2-Chloronaphthalene	1700	374	ug/kg dry	2263.9	376 U	75	45-115	6	40
2-Chlorophenol	1440	374	ug/kg dry	2263.9	376 U	64	45-105	10	40
2-Methylnaphthalene	1300	374	ug/kg dry	2263.9	376 U	58	45-110	5	40
2-Methylphenol	1790	374	ug/kg dry	2263.9	376 U	79	40-120	7	40
2-Nitroaniline	1550 J	1870	ug/kg dry	2263.9	1880 U	68	45-120	3	40
2-Nitrophenol	1180	374	ug/kg dry	2263.9	376 U	52	40-110	2	40
3,3'-Dichlorobenzidine	1550	747	ug/kg dry	2263.9	752 U	68	15-130	31	40
3-Nitroaniline	1320 J	1870	ug/kg dry	2263.9	1880 U	58	40-130	3	40
4,6-Dinitro-2-methylphenol	1650	374	ug/kg dry	2263.9	376 U	73	20-140	18	40
4-Bromophenyl Phenyl Ether	2010	374	ug/kg dry	2263.9	376 U	89	45-115	16	40
4-Chloro-3-methylphenol	1280	374	ug/kg dry	2263.9	376 U	56	35-115	13	40
4-Chloroaniline	889	374	ug/kg dry	2263.9	376 U	39	10-100	21	40
4-Chlorophenyl Phenyl Ether	1920	374	ug/kg dry	2263.9	376 U	85	45-110	10	40
3- and/or 4-Methylphenol	1460	374	ug/kg dry	2263.9	376 U	64	40-120	8	40
4-Nitroaniline	1420 J	1870	ug/kg dry	2263.9	1880 U	63	40-130	10	40
4-Nitrophenol	902 J	1870	ug/kg dry	2263.9	1880 U	40	15-140	0.8	40
Acenaphthene	1720	374	ug/kg dry	2263.9	376 U	76	45-110	7	40
Acenaphthylene	1720	374	ug/kg dry	2263.9	376 U	76	45-115	5	40
Anthracene	1820	374	ug/kg dry	2263.9	376 U	80	45-130	8	40
Benz[a]anthracene	1760	374	ug/kg dry	2263.9	376 U	78	45-130	13	40
Benzo[a] pyrene	1820	374	ug/kg dry	2263.9	376 U	81	45-130	15	40
Benzo[b] fluoranthene	1820	374	ug/kg dry	2263.9	376 U	80	40-130	11	40
Benzo[g,h,i] perylene	1840	374	ug/kg dry	2263.9	376 U	81	45-125	28	40
Benzo[k] fluoranthene	1810	374	ug/kg dry	2263.9	376 U	80	45-125	9	40
Bis(2-chloroethoxy) methane	1270	374	ug/kg dry	2263.9	376 U	56	45-110	4	40

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-182 Project Number: K2451 Project Manager: Joan Kessner	**Reported:** 10/29/2010 09:12

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L010265 - SW 3540C									
Matrix Spike Dup (L010265-MSD4)	**Source: 1010061-01**		Prepared: 10/19/2010 Analyzed: 10/23/2010						
Bis(2-chloroethyl) ether	1270	374	ug/kg dry	2263.9	376 U	56	40-110	0.08	40
Bis(2-chloroisopropyl) ether	1180	374	ug/kg dry	2263.9	376 U	52	30-115	0.2	40
Bis(2-ethylhexyl) phthalate	1790	374	ug/kg dry	2263.9	376 U	79	40-145	22	40
Butyl Benzyl Phthalate	1740	374	ug/kg dry	2263.9	376 U	77	50-125	27	40
Carbazole	1750	374	ug/kg dry	2263.9	376 U	77	40-140	11	40
Chrysene	1830	374	ug/kg dry	2263.9	376 U	81	45-130	18	40
Dibenz[a,h]anthracene	2040	374	ug/kg dry	2263.9	376 U	90	45-125	26	40
Dibenzofuran	1830	374	ug/kg dry	2263.9	376 U	81	45-120	9	40
Diethyl Phthalate	1940	374	ug/kg dry	2263.9	376 U	86	50-125	11	40
Dimethyl Phthalate	1890	374	ug/kg dry	2263.9	376 U	84	45-130	11	40
Di-n-butyl Phthalate	1820	374	ug/kg dry	2263.9	376 U	80	50-130	6	40
Di-n-octyl Phthalate	1780	374	ug/kg dry	2263.9	376 U	79	40-150	16	40
Fluoranthene	1740	374	ug/kg dry	2263.9	376 U	77	45-130	2	40
Fluorene	1920	374	ug/kg dry	2263.9	376 U	85	45-120	7	40
Hexachlorobenzene	2070	374	ug/kg dry	2263.9	376 U	92	45-130	15	40
Hexachlorobutadiene	1400	374	ug/kg dry	2263.9	376 U	62	45-105	0.7	40
Hexachlorocyclopentadiene	1130	374	ug/kg dry	2263.9	376 U	50	10-100	5	40
Hexachloroethane	951	374	ug/kg dry	2263.9	376 U	42	35-110	8	40
Indeno[1,2,3-cd]pyrene	1960	374	ug/kg dry	2263.9	376 U	86	45-130	25	40
Isophorone	1150	374	ug/kg dry	2263.9	376 U	51	40-110	4	40
Naphthalene	1280	374	ug/kg dry	2263.9	376 U	57	40-110	3	40
Nitrobenzene	1180	374	ug/kg dry	2263.9	376 U	52	40-105	1	40
N-Nitrosodi-n-propylamine	1610	374	ug/kg dry	2263.9	376 U	71	30-130	8	40
N-Nitrosodiphenylamine	1740	374	ug/kg dry	2263.9	376 U	77	50-120	13	40
Pentachlorophenol	1320 J	1870	ug/kg dry	2263.9	1880 U	58	25-120	14	40
Phenanthrene	1790	374	ug/kg dry	2263.9	376 U	79	50-120	10	40
Phenol	1420	374	ug/kg dry	2263.9	376 U	63	40-115	5	40
Pyrene	1810	374	ug/kg dry	2263.9	376 U	80	45-125	30	40
Surrogate: 2-Fluorophenol	*1620*		*ug/kg dry*	*2829.9*		*57*	*25-121*		
Surrogate: Phenol-d5	*1770*		*ug/kg dry*	*2829.9*		*63*	*24-113*		
Surrogate: Nitrobenzene-d5	*980*		*ug/kg dry*	*1886.6*		*52*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*1420*		*ug/kg dry*	*1886.6*		*75*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*2470*		*ug/kg dry*	*2829.9*		*87*	*19-122*		
Surrogate: p-Terphenyl-d14	*1850*		*ug/kg dry*	*1886.6*		*98*	*18-137*		

PREPARATION BENCH SHEET

L010265

Lionville Laboratory

Printed: 10/28/2010 11:36:49AM

Matrix: Solid **Prepared using: SVOCGCMS - SW 3540C** **Surrogate used: 1001763**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1010041-01	8270C TCL SVOC	10/19/2010 15:55	11.2	1				500	WC-Hanford, Inc.	
1010052-01	8270C TCL SVOC	10/19/2010 15:55	30.87	1				500	WC-Hanford, Inc.	
1010053-01	8270C TCL SVOC	10/19/2010 15:55	30.94	1				500	WC-Hanford, Inc.	
1010053-02	8270C TCL SVOC	10/19/2010 15:55	30.11	1				500	WC-Hanford, Inc.	
1010053-03	8270C TCL SVOC	10/19/2010 15:55	30.68	1				500	WC-Hanford, Inc.	
1010061-01	8270C TCL SVOC	10/19/2010 15:55	30.015	1				500	WC-Hanford, Inc.	
1010071-01	8270C TCL SVOC	10/19/2010 15:55	30.06	1				500	WC-Hanford, Inc.	
1010071-02	8270C TCL SVOC	10/19/2010 15:55	30.23	1				500	WC-Hanford, Inc.	
1010071-03	8270C TCL SVOC	10/19/2010 15:55	30.34	1				500	WC-Hanford, Inc.	
1010071-04	8270C TCL SVOC	10/19/2010 15:55	31.63	1				500	WC-Hanford, Inc.	
1010071-05	8270C TCL SVOC	10/19/2010 15:55	30.52	1				500	WC-Hanford, Inc.	
1010071-06	8270C TCL SVOC	10/19/2010 15:55	31.77	1				500	WC-Hanford, Inc.	
1010071-07	8270C TCL SVOC	10/19/2010 15:55	30.07	1				500	WC-Hanford, Inc.	
L010265-BLK1	QC	10/19/2010 15:55	30	1				500		
L010265-BS1	QC	10/19/2010 15:55	30	1	1000933		600	500		
L010265-MS1	QC	10/19/2010 15:55	10.1	1	1000933	1010041-01	600	500		
L010265-MS2	QC	10/19/2010 15:55	15.27	1	1000933	1010052-01	600	500		
L010265-MS3	QC	10/19/2010 15:55	30.07	1	1000933	1010053-03	600	500		
L010265-MS4	QC	10/19/2010 15:55	32.03	1	1000933	1010061-01	600	500		
L010265-MS5	QC	10/19/2010 15:55	30.01	1	1000933	1010071-01	600	500		

Extracts Relinquished By: Ashad Prophetal Date: 10/28/10

Extracts Received By: Date:

PREPARATION BENCH SHEET

L010265

Lionville Laboratory

Printed: 10/28/2010 11:36:49AM

Matrix: Solid **Prepared using: SVOCGCMS - SW 3540C** **Surrogate used: 1001763**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L010265-MSD1	QC	10/19/2010 15:55	10.17	1	1000933	1010041-01	600	500		
L010265-MSD2	QC	10/19/2010 15:55	15.82	1	1000933	1010052-01	600	500		
L010265-MSD3	QC	10/19/2010 15:55	30.08	1	1000933	1010053-03	600	500		
L010265-MSD4	QC	10/19/2010 15:55	30.23	1	1000933	1010061-01	600	500		
L010265-MSD5	QC	10/19/2010 15:55	30.04	1	1000933	1010071-01	600	500		

Extracts Relinquished By Date

Extracts Received By Date

PREPARATION BENCH SHEET

L010265

Lionville Laboratory

Printed: 10/21/2010 2:19:00PM

Matrix: Solid **Prepared using: SVOCGCMS - SW 3540/3550** MA Rev 12/8/10 **Surrogate used: 1001763**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1010041-01	8270C TCL SVOC	10/19/2010 15:55	11.2	1				500	WC-Hanford, Inc.	
1010052-01	8270C TCL SVOC	10/19/2010 15:55	30.87	1				500	WC-Hanford, Inc.	
1010053-01	8270C TCL SVOC	10/19/2010 15:55	30.94	1				500	WC-Hanford, Inc.	
1010053-02	8270C TCL SVOC	10/19/2010 15:55	30.11	1				500	WC-Hanford, Inc.	
1010053-03	8270C TCL SVOC	10/19/2010 15:55	30.68	1				500	WC-Hanford, Inc.	
1010061-01	8270C TCL SVOC	10/19/2010 15:55	30.015	1				500	WC-Hanford, Inc.	
1010071-01	8270C TCL SVOC	10/19/2010 15:55	30.06	1				500	WC-Hanford, Inc.	
1010071-02	8270C TCL SVOC	10/19/2010 15:55	30.23	1				500	WC-Hanford, Inc.	
1010071-03	8270C TCL SVOC	10/19/2010 15:55	30.34	1				500	WC-Hanford, Inc.	
1010071-04	8270C TCL SVOC	10/19/2010 15:55	31.63	1				500	WC-Hanford, Inc.	
1010071-05	8270C TCL SVOC	10/19/2010 15:55	30.52	1				500	WC-Hanford, Inc.	
1010071-06	8270C TCL SVOC	10/19/2010 15:55	31.77	1				500	WC-Hanford, Inc.	
1010071-07	8270C TCL SVOC	10/19/2010 15:55	30.07	1				500	WC-Hanford, Inc.	
L010265-BLK1	QC	10/19/2010 15:55	30	1				500		
L010265-BS1	QC	10/19/2010 15:55	30	1	1000933		600	500		
L010265-MS1	QC	10/19/2010 15:55	10.1	1	1000933	1010041-01	600	500		
L010265-MS2	QC	10/19/2010 15:55	15.27	1	1000933	1010052-01	600	500		
L010265-MS3	QC	10/19/2010 15:55	30.07	1	1000933	1010053-03	600	500		
L010265-MS4	QC	10/19/2010 15:55	32.03	1	1000933	1010061-01	600	500		
L010265-MS5	QC	10/19/2010 15:55	30.01	1	1000933	1010071-01	600	500		

Extracts Relinquished By — Date: 10/21/10 14:19

Extracts Received By — Date: 10/21/10 1430

PREPARATION BENCH SHEET

L010265

Lionville Laboratory

Printed: 10/21/2010 2:19:00PM

Matrix: Solid **Prepared using: SVOCGCMS - SW 3540/3550 N/A** **Surrogate used: 1001763**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L010265-MSD1	QC	10/19/2010 15:55	10.17	1	1000933	1010041-01	600	500		
L010265-MSD2	QC	10/19/2010 15:55	15.82	1	1000933	1010052-01	600	500		
L010265-MSD3	QC	10/19/2010 15:55	30.08	1	1000933	1010053-03	600	500		
L010265-MSD4	QC	10/19/2010 15:55	30.23	1	1000933	1010061-01	600	500		
L010265-MSD5	QC	10/19/2010 15:55	30.04	1	1000933	1010071-01	600	500		

Extracts Relinquished By — Date: 10/21/10 14:19

Extracts Received By — Date: 10/21/10 1430

Lionville Laboratory Use Only

1010061

Custody Transfer Record/Lab Work Request

Page 1 of 1

SAC SAC

LVLI LIONVILLE LABORATORY INC.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: WC Hanford SAF# RC-182

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: O.J.

QC: SW1 Del: STD TAT: 15 days

Date Rec'd: 10-13-10 Date Due: 10-28-10

		A			B			C		D					
Refrigerator #		2			2			2		2					
#/Type Container	~~Liquid~~ Solid	1AG			1AG			1AG		1AG					
Volume		120			120			120		120					
Preservatives		—			—			—		—					
ANALYSES REQUESTED →		ORGANIC						INORG							
		VOA	BNA	Pest/PCB	Herb	TCLP SEMI VOA			Metal Hg CN	TCLP MET	TCLP Hg				
		Lionville Laboratory Use Only													
			8270			TCLP 8270T			Met①		TCLP RCRA				

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected														
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	01	J1CCL3	✓	✓	Soil	10-7-10	0930		X			X			X		X	X			

Special Instructions:

Met① = HSL + B, Mo, Si
NO TL

Special Instructions:

1. Leach and Hold TCLP per Joan Kessner
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Fed Ex	[signature]	10/8/10	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN			

00000022

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-182-010	Page 1 of 1

Collector D. Henjum / Z Leach	Company Contact S. Van Den Hende	Telephone No. 509-551-3934	Project Coordinator KESSNER, JH	Price Code ~~8L~~ 8K 10/1/10	Data Turnaround SU 10/7/10 ~~21 Days~~ 15 Days
Project Designation ARRA 100F Remaining Sites Remediation - Soil In-Process	Sampling Location SU 10/7/10 ~~100-F-57 Water Pumphouse Debris Pothole~~ 100-F-49		SAF No. RC-182		
Ice Chest No. WCH-11-009	Field Logbook No. EL-1651	COA S00F578100	Method of Shipment FEDEX		
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A100559		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

~~None~~ Potential Rad < Dot Limits
10-12-10

Special Handling and/or Storage

Cool 4 Degrees C

Preservation	Cool 4C	None	Cool 4C	None	None						
Type of Container	aG	aG	aG	aG	Snap Vial						
No. of Container(s)	1	1	1	1	1						
Volume	120mL	120mL	120mL	120mL	60mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	TCLP Semi-VOA - 1311/8270A	RCF GEA Shipping Screen						

Sample No.	Matrix *	Sample Date	Sample Time										
J1CCL0	SOIL												
J1CCL1	SOIL												
J1CCL2	SOIL												
J1CCL3	SOIL	10-7-10	0930	✓	✓	✓	✓						
J1CCL4	SOIL												

SU 10/7/10

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Z.A. Leach	10/7/10 0945	S. Van Den Hende	10/7/10 0945
S. Van Den Hende	10/7/10 0955	JRDeBruigne	10/7/10 0955
JRDeBruigne	10/7/10 1315	J.E. Benthal	10-7-10 1315
J.E. Benthal	10-12-10 0830	FED EX	
FED EX	10-13-10 0940	VICTOR HERNANDEZ	10-13-10 0940

SPECIAL INSTRUCTIONS

Leach and hold TCLP per 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) {Mercury}

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

REVIEWED BY JR DATE 10/12/10

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wl=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

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC Hanford
Project/SAF/SOW/Release #: RC-182

Date: 10/13/10

LvL Batch #: 1010 061

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7940 0153 7787
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.1	°C	Cooler # WCH-11-009
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 _____	