0089689

SAF-RC-107
100-H Remaining Sites Burial Grounds – Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 7/27/10
NITIAL/DATE

COMMENTS:

SDG K2105 SAF-RC-107

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

RECEIVED
AUG 03 2010
EDMC

Waste Site: 128-H-1 C Verification

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 #	1006088
SDG #	K2105
SAF #	RC-107
Date Received	6/22/10
Matrix	Soil
Semivolatiles	X
Metals	X
Inorganics	X
Pesticides	X
VOA	
PCB	X
PAH	X
DRO	X

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-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/18/2010 15:36

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1B893	1006088-01	Soil	06/17/2010 08:15	06/22/2010 09:40
J1B894	1006088-02	Soil	06/17/2010 08:25	06/22/2010 09:40
J1B895	1006088-03	Soil	06/17/2010 10:15	06/22/2010 09:40
J1B896	1006088-04	Soil	06/17/2010 08:10	06/22/2010 09:40
J1B897	1006088-05	Soil	06/17/2010 10:20	06/22/2010 09:40
J1B8B1	1006088-06	Soil	06/17/2010 10:30	06/22/2010 09:40

264 Welsh Pool Road
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Case Narrative

Client: WC-HANFORD RC-107
LVL#: 1006088
SDG/SAF#: K2105/RC-107

W.O.#: 60049-001-001-0001-00
Date Received: 06-22-10

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 6 soil samples.

2. The samples were 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 9 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 22 pages.

following analytes:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J1B893	Antimony	100	123.0
	Aluminum	22,000	120.9
	Beryllium	100	108.4
	Iron	42,000	79.2
	Chromium	100	106.7
	Magnesium	21,600	101.5
	Manganese	1,000	90.7
	Silicon	5,600	113.3
	Vanadium	1,000	95.0

12. The duplicate analyses 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.

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/06-088

264 Welsh Pool Road
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Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/15/2010 13:46

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. 2620 Fermi Avenue Richland WA, 99354	Project: RC-107 Project Number: K2105 Project Manager: Joan Kessner	**Reported:** 07/18/2010 15:36

J1B893

1006088-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Metals by SW846 6000/7000 series									
Aluminum	**8190**		14.2	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Antimony	0.711	U	0.711	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Arsenic	**3.92**		0.711	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Barium	**126**		0.356	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Beryllium	**0.270**		0.142	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Boron	**8.00**		1.42	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cadmium	**0.187**		0.178	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Calcium	**4090**		14.2	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Chromium	**11.6**		0.711	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cobalt	**6.06**		2.13	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Copper	**14.4**		1.42	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Iron	**17400**		14.2	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Lead	**21.2**		0.711	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Magnesium	**3910**		3.56	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Manganese	**270**		0.711	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Molybdenum	**0.434**	B	0.711	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Nickel	**10.0**		1.78	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Potassium	**1770**		71.1	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Selenium	0.213	U	0.213	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silicon	**475**		4.27	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silver	0.711	U	0.711	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Sodium	**229**		35.6	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Vanadium	**46.4**		0.711	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Zinc	**44.2**		2.13	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Mercury	**0.0297**	B	0.0300	mg/kg dry	1	L007046	07/07/2010	07/07/2010	7471A

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/18/2010 15:36

J1B894

1006088-02 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**8790**		15.0	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Antimony	0.751	U	0.751	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Arsenic	**4.01**		0.751	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Barium	**114**		0.375	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Beryllium	**0.282**		0.150	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Boron	**7.13**		1.50	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cadmium	**0.159**	B	0.188	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Calcium	**4050**		15.0	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Chromium	**12.4**		0.751	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cobalt	**6.13**		2.25	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Copper	**12.8**		1.50	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Iron	**16200**		15.0	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Lead	**18.8**		0.751	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Magnesium	**3930**		3.75	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Manganese	**270**		0.751	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Molybdenum	**0.367**	B	0.751	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Nickel	**10.8**		1.88	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Potassium	**1840**		75.1	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Selenium	0.225	U	0.225	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silicon	**952**		4.51	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silver	0.751	U	0.751	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Sodium	**225**		37.5	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Vanadium	**40.6**		0.751	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Zinc	**43.4**		2.25	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Mercury	0.0263	U	0.0263	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-107 Project Number: K2105 Project Manager: Joan Kessner	Reported: 07/18/2010 15:36

J1B895

1006088-03 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Metals by SW846 6000/7000 series									
Aluminum	**10000**		12.9	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Antimony	0.644	U	0.644	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Arsenic	**3.41**		0.644	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Barium	**89.2**		0.322	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Beryllium	**0.299**		0.129	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Boron	**2.31**		1.29	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cadmium	**0.101**	B	0.161	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Calcium	**3190**		12.9	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Chromium	**12.6**		0.644	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cobalt	**6.89**		1.93	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Copper	**13.1**		1.29	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Iron	**17600**		12.9	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Lead	**4.99**		0.644	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Magnesium	**4380**		3.22	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Manganese	**290**		0.644	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Molybdenum	**0.298**	B	0.644	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Nickel	**12.4**		1.61	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Potassium	**1940**		64.4	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Selenium	0.193	U	0.193	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silicon	**535**		3.86	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silver	0.644	U	0.644	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Sodium	**206**		32.2	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Vanadium	**41.3**		0.644	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Zinc	**40.1**		1.93	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Mercury	0.0305	U	0.0305	mg/kg dry	1	L007046	07/07/2010	07/07/2010	7471A

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/18/2010 15:36

J1B896

1006088-04 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Metals by SW846 6000/7000 series									
Aluminum	**10500**		16.5	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Antimony	0.823	U	0.823	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Arsenic	**3.19**		0.823	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Barium	**102**		0.411	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Beryllium	**0.309**		0.165	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Boron	**2.83**		1.65	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cadmium	**0.130**	B	0.206	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Calcium	**3760**		16.5	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Chromium	**13.6**		0.823	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cobalt	**7.65**		2.47	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Copper	**15.0**		1.65	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Iron	**19600**		16.5	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Lead	**4.78**		0.823	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Magnesium	**5100**		4.11	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Manganese	**320**		0.823	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Molybdenum	**0.325**	B	0.823	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Nickel	**14.3**		2.06	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Potassium	**1770**		82.3	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Selenium	0.247	U	0.247	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silicon	**774**		4.94	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silver	0.823	U	0.823	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Sodium	**240**		41.1	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Vanadium	**49.6**		0.823	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Zinc	**44.9**		2.47	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Mercury	0.0262	U	0.0262	mg/kg dry	1	L007046	07/07/2010	07/07/2010	7471A

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2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/18/2010 15:36

J1B897

1006088-05 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**10700**		17.9	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Antimony	0.894	U	0.894	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Arsenic	**3.65**		0.894	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Barium	**97.9**		0.447	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Beryllium	**0.318**		0.179	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Boron	**2.72**		1.79	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cadmium	**0.131**	B	0.224	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Calcium	**3270**		17.9	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Chromium	**12.3**		0.894	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cobalt	**7.10**		2.68	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Copper	**13.3**		1.79	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Iron	**18500**		17.9	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Lead	**5.69**		0.894	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Magnesium	**4220**		4.47	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Manganese	**314**		0.894	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Molybdenum	**0.301**	B	0.894	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Nickel	**12.6**		2.24	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Potassium	**2210**		89.4	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Selenium	0.268	U	0.268	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silicon	**599**		5.36	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silver	0.894	U	0.894	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Sodium	**204**		44.7	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Vanadium	**43.3**		0.894	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Zinc	**44.6**		2.68	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Mercury	0.0257	U	0.0257	mg/kg dry	1	L007046	07/07/2010	07/07/2010	7471A

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/18/2010 15:36

J1B8B1

1006088-06 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**10600**		16.7	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Antimony	0.837	U	0.837	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Arsenic	**4.38**		0.837	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Barium	**97.3**		0.419	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Beryllium	**0.306**		0.167	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Boron	**3.76**		1.67	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cadmium	**0.148**	B	0.209	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Calcium	**3550**		16.7	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Chromium	**12.4**		0.837	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Cobalt	**7.21**		2.51	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Copper	**13.3**		1.67	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Iron	**19600**		16.7	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Lead	**13.1**		0.837	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Magnesium	**4330**		4.19	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Manganese	**326**		0.837	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Molybdenum	**0.345**	B	0.837	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Nickel	**11.5**		2.09	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Potassium	**2010**		83.7	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Selenium	0.251	U	0.251	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silicon	**944**		5.02	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Silver	0.837	U	0.837	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Sodium	**224**		41.9	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Vanadium	**47.7**		0.837	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Zinc	**47.3**		2.51	mg/kg dry	1	L006250	06/23/2010	07/01/2010	6010B
Mercury	0.0316	U	0.0316	mg/kg dry	1	L007046	07/07/2010	07/07/2010	7471A

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/18/2010 15:36

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 L006250 - SW 3050B										
Blank (L006250-BLK1)				Prepared: 06/23/2010 Analyzed: 06/30/2010						
Aluminum	17.5	U	17.5	mg/kg wet						
Antimony	0.877	U	0.877	mg/kg wet						
Arsenic	0.877	U	0.877	mg/kg wet						
Barium	0.439	U	0.439	mg/kg wet						
Beryllium	0.175	U	0.175	mg/kg wet						
Boron	1.75	U	1.75	mg/kg wet						
Cadmium	0.219	U	0.219	mg/kg wet						
Calcium	17.5	U	17.5	mg/kg wet						
Chromium	0.877	U	0.877	mg/kg wet						
Cobalt	2.63	U	2.63	mg/kg wet						
Copper	1.75	U	1.75	mg/kg wet						
Iron	17.5	U	17.5	mg/kg wet						
Lead	0.877	U	0.877	mg/kg wet						
Magnesium	0.884	B	4.39	mg/kg wet						
Manganese	0.877	U	0.877	mg/kg wet						
Molybdenum	0.877	U	0.877	mg/kg wet						
Nickel	2.19	U	2.19	mg/kg wet						
Potassium	87.7	U	87.7	mg/kg wet						
Selenium	0.263	U	0.263	mg/kg wet						
Silicon	5.26	U	5.26	mg/kg wet						
Silver	0.877	U	0.877	mg/kg wet						
Sodium	43.9	U	43.9	mg/kg wet						
Vanadium	0.877	U	0.877	mg/kg wet						
Zinc	2.63	U	2.63	mg/kg wet						
Duplicate (L006250-DUP2)		**Source: 1006088-01**		Prepared: 06/23/2010 Analyzed: 07/01/2010						
Aluminum	8330		17.5	mg/kg dry		8190			2	20
Antimony	0.874	U	0.874	mg/kg dry		0.711 U				20
Arsenic	3.94		0.874	mg/kg dry		3.92			0.4	20
Barium	126		0.437	mg/kg dry		126			0.2	20
Beryllium	0.265		0.175	mg/kg dry		0.270			2	20
Boron	8.04		1.75	mg/kg dry		8.00			0.4	20
Cadmium	0.202	B	0.219	mg/kg dry		0.187			8	20
Calcium	4980		17.5	mg/kg dry		4090			20	20
Chromium	11.5		0.874	mg/kg dry		11.6			0.8	20
Cobalt	6.46		2.62	mg/kg dry		6.06			6	20
Copper	13.9		1.75	mg/kg dry		14.4			3	20

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/18/2010 15:36

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 L006250 - SW 3050B										
Duplicate (L006250-DUP2)		**Source: 1006088-01**		Prepared: 06/23/2010 Analyzed: 07/01/2010						
Iron	17600		17.5	mg/kg dry		17400			1	20
Lead	23.3		0.874	mg/kg dry		21.2			9	20
Magnesium	3960		4.37	mg/kg dry		3910			1	20
Manganese	273		0.874	mg/kg dry		270			1	20
Molybdenum	0.430	B	0.874	mg/kg dry		0.434			0.7	20
Nickel	10.6		2.19	mg/kg dry		10.0			5	20
Potassium	1860		87.4	mg/kg dry		1770			5	20
Selenium	0.262	U	0.262	mg/kg dry		0.213 U				20
Silicon	950		5.25	mg/kg dry		475			67*	20
Silver	0.874	U	0.874	mg/kg dry		0.711 U				20
Sodium	233		43.7	mg/kg dry		229			2	20
Vanadium	47.2		0.874	mg/kg dry		46.4			2	20
Zinc	44.8		2.62	mg/kg dry		44.2			1	20
Matrix Spike (L006250-MS2)		**Source: 1006088-01**		Prepared: 06/23/2010 Analyzed: 07/01/2010						
Aluminum	8460		16.7	mg/kg dry	166.69	8190	160*	75-125		
Antimony	16.0		0.833	mg/kg dry	41.672	0.711 U	38*	75-125		
Arsenic	139		0.833	mg/kg dry	166.69	3.92	81	75-125		
Barium	255		0.417	mg/kg dry	166.69	126	78	75-125		
Beryllium	3.37		0.167	mg/kg dry	4.1672	0.270	74*	75-125		
Boron	76.6		1.67	mg/kg dry	83.343	8.00	82	75-125		
Cadmium	3.81		0.208	mg/kg dry	4.1672	0.187	87	75-125		
Calcium	5660		16.7	mg/kg dry	2083.6	4090	75	75-125		
Chromium	22.4		0.833	mg/kg dry	16.669	11.6	65*	75-125		
Cobalt	37.5		2.50	mg/kg dry	41.672	6.06	75	75-125		
Copper	30.4		1.67	mg/kg dry	20.836	14.4	77	75-125		
Iron	15800		16.7	mg/kg dry	83.343	17400	-1920*	75-125		
Lead	53.9		0.833	mg/kg dry	41.672	21.2	78	75-125		
Magnesium	5160		4.17	mg/kg dry	2083.6	3910	60*	75-125		
Manganese	278		0.833	mg/kg dry	41.672	270	18*	75-125		
Molybdenum	67.9		0.833	mg/kg dry	83.343	0.434	81	75-125		
Nickel	42.3		2.08	mg/kg dry	41.672	10.0	77	75-125		
Potassium	3460		83.3	mg/kg dry	2083.6	1770	81	75-125		
Selenium	138		0.250	mg/kg dry	166.69	0.213 U	83	75-125		
Silicon	680		5.00	mg/kg dry	83.343	475	246*	75-125		
Silver	3.43		0.833	mg/kg dry	4.1672	0.711 U	82	75-125		
Sodium	2060		41.7	mg/kg dry	2083.6	229	88	75-125		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-107 Project Number: K2105 Project Manager: Joan Kessner	**Reported:** 07/18/2010 15:36

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 L006250 - SW 3050B									
Matrix Spike (L006250-MS2)		**Source: 1006088-01**	Prepared: 06/23/2010 Analyzed: 07/01/2010						
Vanadium	76.1	0.833	mg/kg dry	41.672	46.4	71*	75-125		
Zinc	78.7	2.50	mg/kg dry	41.672	44.2	83	75-125		
Reference (L006250-SRM1)			Prepared: 06/23/2010 Analyzed: 06/30/2010						
Aluminum	8670	51.7	mg/kg wet	6766.6		128	0-225.5		
Antimony	58.3	2.59	mg/kg wet	56.630		103	0-225.6		
Arsenic	115	2.59	mg/kg wet	113.85		101	85-115		
Barium	305	1.29	mg/kg wet	298.35		102	75.7-124.3		
Beryllium	103	0.517	mg/kg wet	108.32		95	85.2-114.8		
Boron	81.0	5.17	mg/kg wet	86.580		94	68.5-131.6		
Cadmium	225	0.647	mg/kg wet	224.09		100	84.9-115.1		
Calcium	3150	51.7	mg/kg wet	3305.9		95	82.8-117.2		
Chromium	79.8	2.59	mg/kg wet	77.590		103	76.8-123.2		
Cobalt	160	7.76	mg/kg wet	163.19		98	79.4-120.6		
Copper	261	5.17	mg/kg wet	265.65		98	82.4-117.6		
Iron	8220	51.7	mg/kg wet	8202.8		100	78.9-121.1		
Lead	190	2.59	mg/kg wet	187.62		101	81.5-118.5		
Magnesium	8380	12.9	mg/kg wet	8352.3		100	84.2-115.8		
Manganese	925	2.59	mg/kg wet	951.35		97	69-131		
Molybdenum	238	2.59	mg/kg wet	234.78		101	80.1-119.9		
Nickel	220	6.47	mg/kg wet	220.85		100	81.4-118.6		
Potassium	14000	259	mg/kg wet	14177		99	85.7-114.3		
Selenium	188	0.776	mg/kg wet	187.99		100	78.8-121.2		
Silicon	797	15.5	mg/kg wet	939.78		85	0-272.3		
Silver	85.0	2.59	mg/kg wet	83.960		101	81.9-118.1		
Sodium	9700	129	mg/kg wet	9587.1		101	83.5-116.4		
Vanadium	105	2.59	mg/kg wet	97.430		108	75.8-124.2		
Zinc	196	7.76	mg/kg wet	196.52		100	78.9-121.1		

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/18/2010 15:36

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-DUP1)		**Source: 1006088-01**		Prepared & Analyzed: 07/07/2010						
Mercury	0.0317		0.0274	mg/kg dry		0.0297			6.61	20
Matrix Spike (L007046-MS1)		**Source: 1006088-01**		Prepared & Analyzed: 07/07/2010						
Mercury	0.222		0.0300	mg/kg dry	0.16669	0.0297	115	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 #: L006250
Date/Time Initiated: 6/23/10 1010
Date/Time Completed: 6/23/10 1535
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: 93
BLOCK 0 2 (circle one)

NOTE: All temperatures are recorded as corrected temperatures

Work Order #	Spike Vol (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/Sol/ TC	Texture	Color / Appearance	Artifact	Turb
1006083-01		0.67	50		TO	Fine	Brown	Rocks	N/A
L006250 Rep1		0.64	50			Fine	Brown	Rocks	
L006250 -MS1	0.5	0.69	50			Fine	Brown	Rocks	
1006083-02		0.65	50			Fine	Brown	Rocks	
1006083-03		0.58	50			Fine	Brown	Rocks	
1006083-04		0.76	50			Fine	Brown	Rocks	
1006083-05		0.67	50			Fine	Brown	Rocks	
1006083-06		0.78	50			Fine	Brown	Rocks	
1006083-07		0.57	50			Fine	Brown	Rocks	
1006083-08		0.68	50			Fine	Brown	Rocks	
1006083-09		0.77	50			Fine	Light Brown	Rocks	
1006083-10		0.70	50			Fine	Light Brown	Rocks	
1006083-11		0.76	50			Fine	Dark Brown	Rocks	
1006083-12		0.60	50			Fine	Brown	Rocks	
1006083-13		0.67	50			Fine	Brown	Rocks	
1006083-14		0.68	50			Coarse	Ottawa Sand		
1006088-01		0.75	50			Fine	Dark Brown	Veg	
L006250 Rep2		0.61	50			Fine	Dark Brown	Veg	
L006250 -MS2	0.5	0.64	50			Fine	Dark Brown	Veg	
1006088-02		0.68	50			Fine	Brown	Rocks	
1006088-03		0.79	50			Fine	Light Brown	Rocks	
1006088-04		0.62	50			Fine	Light Brown	Rocks	
1006088-05		0.59	50			Fine	Brown		
1006088-06		0.65	50			Coarse	Dark Brown	Rocks	
L006250 -BLK1		0.57	50			Coarse	Boiling Chips		
L006250 -SM1		0.58	50			Fine	dusty pink sand		

JJS 6/23/10

Spiking IDs / Expiration Date:
MS#: 8100-04-07
L L .08
L L .09
6072-086-13
LCS#: 0902564

Reagent IDs:
HNO_3 J09093
HCl J110341
H_2O_2 H05A12
1:1 HNO_3 037-019-05
1:1 HCl

File ID#:

Data Review By / Date: 6/28/10

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Signed\SPI\Metals Digestion log.doc

Page #:

Lionville Laboratory

MERCURY PREPARATION

Logbook # 791

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

Instrument ID HG3.1
Balance #: 614 /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. MW 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
Standard # 0902564 (A)

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

Lionville Laboratory

MERCURY PREPARATION

Logbook # 791

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

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	
1006165-03			0.38	50	
04			0.32	50	

PW 7/7/10

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

Reviewed By/Date: _____

See page 07

See book # 9368 for std traceability information

Mil LCS True Value = _____ mg/Kg
Standard # _____

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

Lionville Laboratory

Logbook # 763

% SOLID / % MOISTURE ANALYSIS RECORD

Analyst: CD
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: XSQ0623
Prep Batch: 10L0103044
Promium Batch: L0006257 - Moisture Content
L0006258 - % 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

100 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. Dougherty 6/24/10

Page #

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Lionville Laboratory Use Only: 1006088

Custody Transfer Record/Lab Work Request

Page 1 of 1

800 SRC

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: W.C-Hanford SAF# RC-107

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: Arlette Johnson

QC: SW Del: STD TAT: 21 days

Date Rec'd: 6-22-10 Date Due: 7-13-10

	A	B		C	D		E							
Refrigerator #	2	2		2	2		2							
#/Type Container (Liquid / Solid)	1aql	1aql		1aql	1aql		1aq							
Volume	120	120		250	120		250							
Preservatives	—	—		—	—		—							
ANALYSES REQUESTED (ORGANIC)	VOA	BNA	Pest/PCB	Herb	PCBs	TPH-D	PAHs 8310		INORG: Metal + Hg	CN	Cr+6			
Lionville Laboratory Use Only		625	608		PCB	DRO	PAH	Meta			CR6			

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	625	608		PCB	DRO	PAH	Meta		CR6
01	J1B893			S	6-17-10	0815	X	X		X	X	X	X		X
02	J1B894					0825	X	X		X	X	X	X		X
03	J1B895					1015	X	X		X	X	X	X		X
04	J1B896					0810	X	X		X	X	X	X		X
05	J1B897					1030	X	X		X	X	X	X		X
06	J1B8B1					1030	X	X		X	X	X	X		X

Special Instructions: Run matrix QC

Met① = HSL + B, mo, Si

NOTL

Special Instructions:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6-22-10	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

2008088019

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 1 of ~~2~~ 2 6-17-10

Collector: J. Sellers	Company Contact: Don Woolery	Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 128-H-1 C Verification		SAF No.: RC-107
Ice Chest No.: ERC-96-030	Field Logbook No.: EL 1627-4	COA: ~~R~~128H12000 O 6-17-10	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A100222		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
Type of Container	aG	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	0	1	1	1	0	1				
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081				

Sample No.	Matrix *	Sample Date	Sample Time									
J1B893	SOIL	6-17-10	0815	X	X	X	X	X	X	X		
J1B894	SOIL	6-17-10	0825	X	X	X	X	X	X	X		
J1B895	SOIL	6-17-10	1015	X	X	X	X	X	X	X		
J1B896	SOIL	6-17-10	0810	X	X	X	X	X	X	X		
J1B897	SOIL	6-17-10	1020	X	X	X	X	X	X	X		

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J. Sellers	6-17-10 1200	Sterling Howell	6-17-10 1200
Sterling Howell	6-17-10 1535	J.E. Bernhard	6-17-10 1535
J.E. Bernhard	6-21-10 1000	FED EX	
FED EX	6-22-10 09:40	Donna Smith	6-22-10 09:40

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SJDH DATE 6/21/10

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 2 of 72 6-17-10

Collector J. Sellers	Company Contact: Don Woolery Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH	Price Code: 8L Data Turnaround: 21 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 128-H-1 C Verification	SAF No.: RC-107	
Ice Chest No.: ERC-96-030	Field Logbook No.: EL 1627-4 COA: ~~R~~128H12000 0 6-17-10	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A100222	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
Type of Container	aG	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	0	1	1	1	0	1				
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081				

Sample No.	Matrix *	Sample Date	Sample Time										
~~J1B898~~ 6-17-10	SOIL												
~~J1B899~~ 6-17-10	SOIL												
~~J1B8B0~~ 6-17-10	SOIL												
J1B8B1	SOIL	6-17-10	1030	X	X	X	X	X	X	X			
~~J1B8B2~~ 6-17-10	SOIL												

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: J. Sellers	6-17-10 1200	Received By/Stored In: Sterling Howell	6-17-10 1200
Relinquished By/Removed From: Sterling Howell	6-17-10 1535	Received By/Stored In: J.E. Bernal	6-17-10 1535
Relinquished By/Removed From: J.E. Bernal	6-21-10 1000	Received By/Stored In: FED EX	
Relinquished By/Removed From: FED EX	6-22-10 0940	Received By/Stored In: Donna Smith	6-22-10 0940
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SUDH DATE 6/21/10

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

3000000021

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC. Hanford

Project/SAF/SOW/Release #: RC-107

Date: 6-22-10

LvL Batch #: 1006088

Sample Custodian: [illegible]

NOTE. EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7987 7799 4728 7987 7799 4772
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: ERC-01-041 holes in bottom of cooler.
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 3.3 °C 3.6	°C	Cooler # ERC-96-030
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify): ERC-01-041
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 _____	

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/12/2010 15:49

Analytical Report for Wet Chemistry

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1B893	1006088-01	Soil	06/17/2010 08:15	06/22/2010 09:40
J1B894	1006088-02	Soil	06/17/2010 08:25	06/22/2010 09:40
J1B895	1006088-03	Soil	06/17/2010 10:15	06/22/2010 09:40
J1B896	1006088-04	Soil	06/17/2010 08:10	06/22/2010 09:40
J1B897	1006088-05	Soil	06/17/2010 10:20	06/22/2010 09:40
J1B8B1	1006088-06	Soil	06/17/2010 10:30	06/22/2010 09:40

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

Case Narrative

Client: WC-HANFORD RC-107 K2105
LVL#: 1006088 **Date Received:** 06-22-10

INORGANIC NARRATIVE

1. This narrative covers the analyses of 6 soil samples.

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

   Lionville Lab (LvL) is NELAP accredited by the State of Pennsylvania. For a complete list of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager. LvL certifies that all test results meet the requirements of NELAC with any exception noted in the following statements.

3. Sample holding times as required by the method and/or contract were met.

4. The results presented in this report are derived from samples that met LvL's sample acceptance policy.

5. The method blank for Hexavalent Chromium (Cr^{6+}) was within the method criteria.

6. The Laboratory Control Samples (LCS) for Cr^{6+} were within the laboratory control limits.

7. The matrix spike recoveries for Cr^{6+} were within the 75-125% control limits.

8. The replicate analyses were within the 20% Relative Percent Difference (RPD) control limit.

9 Results for soil samples are reported on a dry weight basis.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory

7/13/10
Date

njp\i06-088

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 10 pages.

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/12/2010 15:49

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Results reported from a dilution; related reporting limits are elevated due to the presence of an interference or a high target value
B	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
*	Value outside QC acceptance criteria
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
Dry	Sample results reported on a dry weight basis
Wet	Sample results reported on a wet weight basis
RPD	Relative Percent Difference

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/12/2010 15:49

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
J1B893 (1006088-01) Soil									
%Solids	93.7		0.1	% by Weight	1	L006258	06/23/2010	06/23/2010	EPA 160.6
Hexavalent Chromium	0.18	B	0.21	mg/kg dry	1	L007090	07/10/2010	07/11/2010	SW846 7196A
J1B894 (1006088-02) Soil									
%Solids	97.9		0.1	% by Weight	1	L006258	06/23/2010	06/23/2010	EPA 160.6
Hexavalent Chromium	0.16	B	0.20	mg/kg dry	1	L007090	07/10/2010	07/11/2010	SW846 7196A
J1B895 (1006088-03) Soil									
%Solids	98.3		0.1	% by Weight	1	L006258	06/23/2010	06/23/2010	EPA 160.6
Hexavalent Chromium	0.11	B	0.20	mg/kg dry	1	L007090	07/10/2010	07/11/2010	SW846 7196A
J1B896 (1006088-04) Soil									
%Solids	98.0		0.1	% by Weight	1	L006258	06/23/2010	06/23/2010	EPA 160.6
Hexavalent Chromium	0.14	B	0.20	mg/kg dry	1	L007090	07/10/2010	07/11/2010	SW846 7196A
J1B897 (1006088-05) Soil									
%Solids	94.8		0.1	% by Weight	1	L006258	06/23/2010	06/23/2010	EPA 160.6
Hexavalent Chromium	0.19	B	0.21	mg/kg dry	1	L007090	07/10/2010	07/11/2010	SW846 7196A
J1B8B1 (1006088-06) Soil									
%Solids	91.9		0.1	% by Weight	1	L006258	06/23/2010	06/23/2010	EPA 160.6
Hexavalent Chromium	0.11	B	0.22	mg/kg dry	1	L007090	07/10/2010	07/11/2010	SW846 7196A

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-107 Project Number: K2105 Project Manager: Joan Kessner	**Reported:** 07/12/2010 15:49

Wet Chemistry - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L006258 - % Solids										
Duplicate (L006258-DUP1)		**Source: 1006088-01**		Prepared & Analyzed: 06/23/2010						
%Solids	94.1		0.1	% by Weight		93.7			0.4	20
Batch L007090 - Default Prep GenChem										
Blank (L007090-BLK1)				Prepared: 07/10/2010 Analyzed: 07/11/2010						
Hexavalent Chromium	0.20	U	0.20	mg/kg wet						
LCS (L007090-BS1)				Prepared: 07/10/2010 Analyzed: 07/11/2010						
Hexavalent Chromium	3.95		0.20	mg/kg wet	4.0000		99	80-120		
LCS (L007090-BS2)				Prepared: 07/10/2010 Analyzed: 07/11/2010						
Hexavalent Chromium	1120	D	20.0	mg/kg wet	1133.4		99	80-120		
Duplicate (L007090-DUP1)		**Source: 1006088-01**		Prepared: 07/10/2010 Analyzed: 07/11/2010						
Hexavalent Chromium	0.16	B	0.21	mg/kg dry		0.18			12	20
Matrix Spike (L007090-MS1)		**Source: 1006088-01**		Prepared: 07/10/2010 Analyzed: 07/11/2010						
Hexavalent Chromium	4.41		0.21	mg/kg dry	4.2672	0.18	99	75-125		
Matrix Spike (L007090-MS2)		**Source: 1006088-01**		Prepared: 07/10/2010 Analyzed: 07/11/2010						
Hexavalent Chromium	1120	D	21.3	mg/kg dry	1161.1	0.18	96	75-125		

Lionville Laboratory Use Only: 1006088

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: W.C-Hanford SAF# RC-107

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: Arlette Johnson

QC: SW Del: STD TAT: 21 days

Date Rec'd: 6-22-10 Date Due: 7-13-10

	A	B	C	D	E
Refrigerator #	2	2	2	2	2
#/Type Container (Liquid / Solid)	1aq	1aq	1aq	1aq	1aq
Volume	120	120	250	120	250
Preservatives	—	—	—	—	—

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA (625)	Pest/PCB (608)	Herb	PCBs (PCB)	TPH-D (DRO)	PAHs (PAH)	Metal + Hg (Metal)	CN	Cr+6 (CR6)
01	J1B893			S	6-17-10	0815		X	X		X	X	X	X		X
02	J1B894					0825		X	X		X	X	X	X		X
03	J1B895					1015		X	X		X	X	X	X		X
04	J1B896					0810		X	X		X	X	X	X		X
05	J1B897					1030		X	X		X	X	X	X		X
06	J1B8B1					1030		X	X		X	X	X	X		X

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

Special Instructions: Run matrix QC

Met(1) = HSL+B, mo, Si
NOTL

Special Instructions:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6-23-10	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 1 of ~~2~~ 2 6-17-10

Collector: J. Sellers	Company Contact: Don Woolery	Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 128-H-1 C Verification		SAF No.: RC-107
Ice Chest No.: ERC-96-030	Field Logbook No.: EL 1627-4	COA: ~~R~~128H12000 0 6-17-10	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A100222		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
Type of Container	aG	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	0	1	1	1	0	1				
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081				

Sample No.	Matrix *	Sample Date	Sample Time										
J1B893	SOIL	6-17-10	0815	X	X	X	X	X	X	X			
J1B894	SOIL	6-17-10	0825	X	X	X	X	X	X	X			
J1B895	SOIL	6-17-10	1015	X	X	X	X	X	X	X			
J1B896	SOIL	6-17-10	0810	X	X	X	X	X	X	X			
J1B897	SOIL	6-17-10	1020	X	X	X	X	X	X	X			

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: J. Sellers	6-17-10 1200	Received By/Stored In: Sterling Howell	6-17-10 1200
Relinquished By/Removed From: Sterling Howell	6-17-10 1535	Received By/Stored In: J.E. Bernhard	6-17-10 1535
Relinquished By/Removed From: J.E. Bernhard	6-21-10 1000	Received By/Stored In: FED EX	
Relinquished By/Removed From: Fed Ex	6-22-10 09:40	Received By/Stored In: Donna Smith	6-22-10 0940
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SWH DATE 6/21/10

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

CCC000000007

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 2 of ~~2~~ 3 6-17-10

Collector: J. Sellers	Company Contact: Don Woolery	Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 128-H-1 C Verification		SAF No.: RC-107
Ice Chest No.: ERC-96-030	Field Logbook No.: EL 1627-4	COA: ~~R~~128H12000 O 6-17-10	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A100222		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container	aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)	1	0	1	1	1	0	1			
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time										
~~J1B898~~ 6-17-10	SOIL												
~~J1B899~~ 6-17-10	SOIL												
~~J1B8B0~~ 6-17-10	SOIL												
J1B8B1	SOIL	6-17-10	1030	X	X	X	X	X	X	X			
~~J1B8B2~~ 6-17-10	SOIL												

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J. Sellers	6-17-10 1200	Sterling Howell	6-17-10 1200
Sterling Howell	6-17-10 1535	J.E. Bemhal	6-17-10 1535
J.E. Bemhal	6-21-10 1000	FED EX	
FED EX	6-22-10/0940	Donna Smith	6-22-10/0940

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SUDH DATE 6/21/10

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

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC. Hanford

Project/SAF/SOW/Release #: RC-107

Date: 6-22-10

LvL Batch #: 1006088

Sample Custodian: [illegible]

NOTE. EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7987 7799 4728 7987 7799 4772
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: ERC-01-041 holes in bottom of cooler.
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 3.3 °C 3.6	°C	Cooler # ERC-96-030
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify) ERC-01-041
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 _____	

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

Analytical Report for Semivolatile Organic Compounds by SW846 8270C

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1B893	1006088-01	Soil	06/17/2010 08:15	06/22/2010 09:40
J1B894	1006088-02	Soil	06/17/2010 08:25	06/22/2010 09:40
J1B895	1006088-03	Soil	06/17/2010 10:15	06/22/2010 09:40
J1B896	1006088-04	Soil	06/17/2010 08:10	06/22/2010 09:40
J1B897	1006088-05	Soil	06/17/2010 10:20	06/22/2010 09:40
J1B8B1	1006088-06	Soil	06/17/2010 10:30	06/22/2010 09:40

LIONVILLE LABORATORY
A division of Cheshire Analytical Corporation

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

Case Narrative

Client: WC-HANFORD RC-107 K2105
LVL #: 1006088

W.O. #: 60049-001-001-0001-00
Date Received: 06-22-2010

SEMIVOLATILE

Six (6) soil samples were collected on 06-17-2010.

The samples and associated QC samples were extracted 06-23-2010 and analyzed 06-29,30-2010, 07-6-2010 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 client specified 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. Samples were 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. One (1) of sixty-four (64) blank spike recoveries was outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR# 10MS203) has been enclosed.

7. Fourteen (14) of one hundred and twenty-eight (128) matrix spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR# 10MS203) has been enclosed.

8. The samples were 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.

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 32 pages.

11. Internal standard area and retention time criteria were met.

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

7/16/10
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 10MS103

Initiator: Shawn Saylor
Date: 7-14-10
Client: Weitnbrial RC-107 K2105

Batch: 1006088
Samples: BS, ms, msd
Method: SW846/MCAWW/CLP/

Parameter: 8270
Matrix: Soil
Prep Batch: L006248

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)

Several Spike recoveries outside QC acceptance Limits in BS, ms, msd

2. Known or Probable Causes(s) Acidic phenol subject to erratic chromatographic behavior others sporadic

All surrogates within criteria

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 All samples nondetect reimpact unrelated

4. Project Manager Instructions...signature/date: 7/16/10

✓ 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: 7/16/10 Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
X 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.

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B893

1006088-01 (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	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
1,2-Dichlorobenzene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
1,3-Dichlorobenzene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
1,4-Dichlorobenzene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4,5-Trichlorophenol	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4,6-Trichlorophenol	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4-Dichlorophenol	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4-Dimethylphenol	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4-Dinitrophenol	1750 U	1750	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4-Dinitrotoluene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,6-Dinitrotoluene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Chloronaphthalene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Chlorophenol	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Methylnaphthalene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Methylphenol	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Nitroaniline	1750 U	1750	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Nitrophenol	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
3,3'-Dichlorobenzidine	698 U	698	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
3-Nitroaniline	1750 U	1750	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4,6-Dinitro-2-methylphenol	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Bromophenyl Phenyl Ether	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Chloro-3-methylphenol	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Chloroaniline	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Chlorophenyl Phenyl Ether	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
3- and/or 4-Methylphenol	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Nitroaniline	1750 U	1750	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Nitrophenol	1750 U	1750	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Acenaphthene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Acenaphthylene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Anthracene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Benz[a]anthracene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Benzo[a] pyrene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Benzo[b] fluoranthene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Benzo[g,h,i] perylene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Benzo[k] fluoranthene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Bis(2-chloroethoxy) methane	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Bis(2-chloroethyl) ether	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Bis(2-chloroisopropyl) ether	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Bis(2-ethylhexyl) phthalate	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B893

1006088-01 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory					
Semivolatile Organic Compounds by SW846 8270C								
Butyl Benzyl Phthalate	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Carbazole	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Chrysene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Dibenz[a,h]anthracene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Dibenzofuran	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Diethyl Phthalate	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Dimethyl Phthalate	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Di-n-butyl Phthalate	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Di-n-octyl Phthalate	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Fluoranthene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Fluorene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Hexachlorobenzene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Hexachlorobutadiene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Hexachlorocyclopentadiene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Hexachloroethane	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Indeno[1,2,3-cd]pyrene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Isophorone	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Naphthalene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Nitrobenzene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
N-Nitrosodi-n-propylamine	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
N-Nitrosodiphenylamine	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Pentachlorophenol	1750 U	1750	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Phenanthrene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Phenol	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Pyrene	349 U	349	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
TIC:Unknown 2	**714** J		ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
TIC:Unknown 1	**401** J		ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
TIC:Alkane 2	**1520** J		ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
TIC:Alkane 1	**509** J		ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
TIC:Aldol 1	**76400** A, B, J		ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Surrogate: 2-Fluorophenol	*63 %*	*25-121*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*
Surrogate: Phenol-d5	*66 %*	*24-113*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*
Surrogate: Nitrobenzene-d5	*65 %*	*23-120*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*
Surrogate: 2-Fluorobiphenyl	*74 %*	*30-115*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*64 %*	*19-122*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*
Surrogate: p-Terphenyl-d14	*85 %*	*18-137*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B894
1006088-02 (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	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
1,2-Dichlorobenzene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
1,3-Dichlorobenzene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
1,4-Dichlorobenzene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4,5-Trichlorophenol	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4,6-Trichlorophenol	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dichlorophenol	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dimethylphenol	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dinitrophenol	1690 U	1690	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dinitrotoluene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,6-Dinitrotoluene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Chloronaphthalene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Chlorophenol	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Methylnaphthalene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Methylphenol	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Nitroaniline	1690 U	1690	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Nitrophenol	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
3,3'-Dichlorobenzidine	674 U	674	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
3-Nitroaniline	1690 U	1690	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4,6-Dinitro-2-methylphenol	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Bromophenyl Phenyl Ether	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Chloro-3-methylphenol	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Chloroaniline	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Chlorophenyl Phenyl Ether	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
3- and/or 4-Methylphenol	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Nitroaniline	1690 U	1690	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Nitrophenol	1690 U	1690	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Acenaphthene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Acenaphthylene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Anthracene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benz[a]anthracene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[a] pyrene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[b] fluoranthene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[g,h,i] perylene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[k] fluoranthene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-chloroethoxy) methane	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-chloroethyl) ether	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-chloroisopropyl) ether	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-ethylhexyl) phthalate	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B894

1006088-02 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory					
Semivolatile Organic Compounds by SW846 8270C								
Butyl Benzyl Phthalate	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Carbazole	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Chrysene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Dibenz[a,h]anthracene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Dibenzofuran	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Diethyl Phthalate	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Dimethyl Phthalate	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Di-n-butyl Phthalate	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Di-n-octyl Phthalate	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Fluoranthene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Fluorene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachlorobenzene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachlorobutadiene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachlorocyclopentadiene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachloroethane	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Indeno[1,2,3-cd]pyrene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Isophorone	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Naphthalene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Nitrobenzene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
N-Nitrosodi-n-propylamine	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
N-Nitrosodiphenylamine	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Pentachlorophenol	1690 U	1690	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Phenanthrene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Phenol	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Pyrene	337 U	337	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
TIC:Alkane 2	**224** J		ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
TIC:Unknown 1	**3900** J		ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
TIC:Alkane 3	**536** J		ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
TIC:Alkane 1	**189** J		ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
TIC:Aldol 1	**96000** A, B, J		ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Surrogate: 2-Fluorophenol	*58 %*	*25-121*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: Phenol-d5	*61 %*	*24-113*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: Nitrobenzene-d5	*64 %*	*23-120*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: 2-Fluorobiphenyl	*73 %*	*30-115*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*65 %*	*19-122*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: p-Terphenyl-d14	*82 %*	*18-137*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B895

1006088-03 (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	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
1,2-Dichlorobenzene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
1,3-Dichlorobenzene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
1,4-Dichlorobenzene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4,5-Trichlorophenol	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4,6-Trichlorophenol	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4-Dichlorophenol	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4-Dimethylphenol	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4-Dinitrophenol	1660 U	1660	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,4-Dinitrotoluene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2,6-Dinitrotoluene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Chloronaphthalene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Chlorophenol	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Methylnaphthalene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Methylphenol	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Nitroaniline	1660 U	1660	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
2-Nitrophenol	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
3,3'-Dichlorobenzidine	663 U	663	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
3-Nitroaniline	1660 U	1660	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4,6-Dinitro-2-methylphenol	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Bromophenyl Phenyl Ether	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Chloro-3-methylphenol	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Chloroaniline	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Chlorophenyl Phenyl Ether	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
3- and/or 4-Methylphenol	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Nitroaniline	1660 U	1660	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
4-Nitrophenol	1660 U	1660	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Acenaphthene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Acenaphthylene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Anthracene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Benz[a]anthracene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Benzo[a] pyrene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Benzo[b] fluoranthene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Benzo[g,h,i] perylene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Benzo[k] fluoranthene	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Bis(2-chloroethoxy) methane	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Bis(2-chloroethyl) ether	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Bis(2-chloroisopropyl) ether	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Bis(2-ethylhexyl) phthalate	332 U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B895

1006088-03 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Semivolatile Organic Compounds by SW846 8270C									
Butyl Benzyl Phthalate	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Carbazole	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Chrysene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Dibenz[a,h]anthracene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Dibenzofuran	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Diethyl Phthalate	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Dimethyl Phthalate	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Di-n-butyl Phthalate	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Di-n-octyl Phthalate	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Fluoranthene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Fluorene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Hexachlorobenzene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Hexachlorobutadiene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Hexachlorocyclopentadiene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Hexachloroethane	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Indeno[1,2,3-cd]pyrene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Isophorone	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Naphthalene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Nitrobenzene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
N-Nitrosodi-n-propylamine	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
N-Nitrosodiphenylamine	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Pentachlorophenol	1660	U	1660	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Phenanthrene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Phenol	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Pyrene	332	U	332	ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
TIC:Unknown 1	**421**	J		ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
TIC:Aldol 1	**110000**	A, B, J		ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
TIC:Unknown 2	**232**	J		ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
TIC:Unknown 3	**136**	J		ug/kg dry	1	L006248	06/23/2010	07/06/2010	8270C
Surrogate: 2-Fluorophenol	*71 %*		*25-121*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*
Surrogate: Phenol-d5	*69 %*		*24-113*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*
Surrogate: Nitrobenzene-d5	*71 %*		*23-120*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*
Surrogate: 2-Fluorobiphenyl	*80 %*		*30-115*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*73 %*		*19-122*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*
Surrogate: p-Terphenyl-d14	*83 %*		*18-137*			*L006248*	*06/23/2010*	*07/06/2010*	*8270C*

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B896

1006088-04 (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	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
1,2-Dichlorobenzene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
1,3-Dichlorobenzene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
1,4-Dichlorobenzene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4,5-Trichlorophenol	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4,6-Trichlorophenol	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dichlorophenol	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dimethylphenol	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dinitrophenol	1680 U	1680	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dinitrotoluene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,6-Dinitrotoluene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Chloronaphthalene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Chlorophenol	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Methylnaphthalene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Methylphenol	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Nitroaniline	1680 U	1680	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Nitrophenol	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
3,3'-Dichlorobenzidine	673 U	673	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
3-Nitroaniline	1680 U	1680	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4,6-Dinitro-2-methylphenol	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Bromophenyl Phenyl Ether	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Chloro-3-methylphenol	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Chloroaniline	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Chlorophenyl Phenyl Ether	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
3- and/or 4-Methylphenol	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Nitroaniline	1680 U	1680	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Nitrophenol	1680 U	1680	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Acenaphthene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Acenaphthylene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Anthracene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benz[a]anthracene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[a] pyrene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[b] fluoranthene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[g,h,i] perylene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[k] fluoranthene	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-chloroethoxy) methane	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-chloroethyl) ether	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-chloroisopropyl) ether	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-ethylhexyl) phthalate	336 U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B896

1006088-04 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Butyl Benzyl Phthalate	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Carbazole	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Chrysene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Dibenz[a,h]anthracene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Dibenzofuran	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Diethyl Phthalate	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Dimethyl Phthalate	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Di-n-butyl Phthalate	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Di-n-octyl Phthalate	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Fluoranthene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Fluorene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachlorobenzene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachlorobutadiene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachlorocyclopentadiene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachloroethane	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Indeno[1,2,3-cd]pyrene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Isophorone	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Naphthalene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Nitrobenzene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
N-Nitrosodi-n-propylamine	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
N-Nitrosodiphenylamine	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Pentachlorophenol	1680	U	1680	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Phenanthrene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Phenol	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Pyrene	336	U	336	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
TIC:Unknown 1	**178**	J		ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
TIC:Aldol 1	**60200**	A, B, J		ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Surrogate: 2-Fluorophenol	*44 %*		*25-121*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: Phenol-d5	*48 %*		*24-113*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: Nitrobenzene-d5	*50 %*		*23-120*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-115*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*61 %*		*19-122*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: p-Terphenyl-d14	*101 %*		*18-137*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B897

1006088-05 (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	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
1,2-Dichlorobenzene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
1,3-Dichlorobenzene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
1,4-Dichlorobenzene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4,5-Trichlorophenol	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4,6-Trichlorophenol	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dichlorophenol	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dimethylphenol	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dinitrophenol	1740 U	1740	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,4-Dinitrotoluene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2,6-Dinitrotoluene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Chloronaphthalene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Chlorophenol	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Methylnaphthalene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Methylphenol	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Nitroaniline	1740 U	1740	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
2-Nitrophenol	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
3,3'-Dichlorobenzidine	695 U	695	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
3-Nitroaniline	1740 U	1740	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4,6-Dinitro-2-methylphenol	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Bromophenyl Phenyl Ether	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Chloro-3-methylphenol	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Chloroaniline	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Chlorophenyl Phenyl Ether	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
3- and/or 4-Methylphenol	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Nitroaniline	1740 U	1740	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
4-Nitrophenol	1740 U	1740	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Acenaphthene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Acenaphthylene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Anthracene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benz[a]anthracene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[a] pyrene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[b] fluoranthene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[g,h,i] perylene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Benzo[k] fluoranthene	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-chloroethoxy) methane	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-chloroethyl) ether	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-chloroisopropyl) ether	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Bis(2-ethylhexyl) phthalate	347 U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B897

1006088-05 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Semivolatile Organic Compounds by SW846 8270C									
Butyl Benzyl Phthalate	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Carbazole	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Chrysene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Dibenz[a,h]anthracene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Dibenzofuran	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Diethyl Phthalate	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Dimethyl Phthalate	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Di-n-butyl Phthalate	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Di-n-octyl Phthalate	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Fluoranthene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Fluorene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachlorobenzene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachlorobutadiene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachlorocyclopentadiene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Hexachloroethane	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Indeno[1,2,3-cd]pyrene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Isophorone	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Naphthalene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Nitrobenzene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
N-Nitrosodi-n-propylamine	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
N-Nitrosodiphenylamine	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Pentachlorophenol	1740	U	1740	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Phenanthrene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Phenol	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Pyrene	347	U	347	ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
TIC:Aldol 1	**31400**	A, B, J		ug/kg dry	1	L006248	06/23/2010	06/30/2010	8270C
Surrogate: 2-Fluorophenol	*53 %*		*25-121*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: Phenol-d5	*55 %*		*24-113*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: Nitrobenzene-d5	*59 %*		*23-120*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: 2-Fluorobiphenyl	*66 %*		*30-115*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*53 %*		*19-122*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*
Surrogate: p-Terphenyl-d14	*83 %*		*18-137*			*L006248*	*06/23/2010*	*06/30/2010*	*8270C*

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B8B1

1006088-06 (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	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
1,2-Dichlorobenzene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
1,3-Dichlorobenzene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
1,4-Dichlorobenzene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2,4,5-Trichlorophenol	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2,4,6-Trichlorophenol	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2,4-Dichlorophenol	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2,4-Dimethylphenol	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2,4-Dinitrophenol	1790 U	1790	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2,4-Dinitrotoluene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2,6-Dinitrotoluene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2-Chloronaphthalene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2-Chlorophenol	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2-Methylnaphthalene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2-Methylphenol	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2-Nitroaniline	1790 U	1790	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
2-Nitrophenol	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
3,3'-Dichlorobenzidine	716 U	716	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
3-Nitroaniline	1790 U	1790	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
4,6-Dinitro-2-methylphenol	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
4-Bromophenyl Phenyl Ether	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
4-Chloro-3-methylphenol	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
4-Chloroaniline	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
4-Chlorophenyl Phenyl Ether	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
3- and/or 4-Methylphenol	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
4-Nitroaniline	1790 U	1790	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
4-Nitrophenol	1790 U	1790	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Acenaphthene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Acenaphthylene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Anthracene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Benz[a]anthracene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Benzo[a] pyrene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Benzo[b] fluoranthene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Benzo[g,h,i] perylene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Benzo[k] fluoranthene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Bis(2-chloroethoxy) methane	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Bis(2-chloroethyl) ether	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Bis(2-chloroisopropyl) ether	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Bis(2-ethylhexyl) phthalate	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

J1B8B1

1006088-06 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory					
Semivolatile Organic Compounds by SW846 8270C								
Butyl Benzyl Phthalate	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Carbazole	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Chrysene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Dibenz[a,h]anthracene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Dibenzofuran	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Diethyl Phthalate	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Dimethyl Phthalate	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Di-n-butyl Phthalate	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Di-n-octyl Phthalate	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Fluoranthene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Fluorene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Hexachlorobenzene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Hexachlorobutadiene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Hexachlorocyclopentadiene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Hexachloroethane	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Indeno[1,2,3-cd]pyrene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Isophorone	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Naphthalene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Nitrobenzene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
N-Nitrosodi-n-propylamine	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
N-Nitrosodiphenylamine	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Pentachlorophenol	1790 U	1790	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Phenanthrene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Phenol	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Pyrene	358 U	358	ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
TIC:Unknown 1	**720** J		ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
TIC:Alkane 2	**324** J		ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
TIC:Alkane 1	**619** J		ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
TIC:Aldol 2	**189** A, J		ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
TIC:Aldol 1	**32100** A, B, J		ug/kg dry	1	L006248	06/23/2010	06/29/2010	8270C
Surrogate: 2-Fluorophenol	*62 %*	*25-121*			*L006248*	*06/23/2010*	*06/29/2010*	*8270C*
Surrogate: Phenol-d5	*64 %*	*24-113*			*L006248*	*06/23/2010*	*06/29/2010*	*8270C*
Surrogate: Nitrobenzene-d5	*57 %*	*23-120*			*L006248*	*06/23/2010*	*06/29/2010*	*8270C*
Surrogate: 2-Fluorobiphenyl	*63 %*	*30-115*			*L006248*	*06/23/2010*	*06/29/2010*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*56 %*	*19-122*			*L006248*	*06/23/2010*	*06/29/2010*	*8270C*
Surrogate: p-Terphenyl-d14	*80 %*	*18-137*			*L006248*	*06/23/2010*	*06/29/2010*	*8270C*

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

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 L006248 - SW 3540C									
Blank (L006248-BLK1)			Prepared: 06/23/2010 Analyzed: 06/29/2010						
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						

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-107 Project Number: K2105 Project Manager: Joan Kessner	**Reported:** 07/13/2010 12:47

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 L006248 - SW 3540C									
Blank (L006248-BLK1)			Prepared: 06/23/2010 Analyzed: 06/29/2010						
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 1	30100 A, J		ug/kg wet						
Surrogate: 2-Fluorophenol	*1180*		*ug/kg wet*	*2500.0*		*47*	*25-121*		
Surrogate: Phenol-d5	*1120*		*ug/kg wet*	*2500.0*		*45*	*24-113*		
Surrogate: Nitrobenzene-d5	*961*		*ug/kg wet*	*1666.7*		*58*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*1020*		*ug/kg wet*	*1666.7*		*61*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*1130*		*ug/kg wet*	*2500.0*		*45*	*19-122*		
Surrogate: p-Terphenyl-d14	*1230*		*ug/kg wet*	*1666.7*		*74*	*18-137*		

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

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 L006248 - SW 3540C									
LCS (L006248-BS1)			Prepared: 06/23/2010 Analyzed: 06/29/2010						
1,2,4-Trichlorobenzene	1370	330	ug/kg wet	2000.0		68	60-120		
1,2-Dichlorobenzene	1480	330	ug/kg wet	2000.0		74	50-110		
1,3-Dichlorobenzene	1400	330	ug/kg wet	2000.0		70	50-110		
1,4-Dichlorobenzene	1420	330	ug/kg wet	2000.0		71	50-120		
2,4,5-Trichlorophenol	1310	330	ug/kg wet	2000.0		65	50-110		
2,4,6-Trichlorophenol	957	330	ug/kg wet	2000.0		48*	50-110		
2,4-Dichlorophenol	1420	330	ug/kg wet	2000.0		71	45-110		
2,4-Dimethylphenol	1320	330	ug/kg wet	2000.0		66	50-120		
2,4-Dinitrophenol	1910	1650	ug/kg wet	2000.0		95	20-120		
2,4-Dinitrotoluene	1630	330	ug/kg wet	2000.0		82	60-130		
2,6-Dinitrotoluene	1700	330	ug/kg wet	2000.0		85	50-140		
2-Chloronaphthalene	1560	330	ug/kg wet	2000.0		78	50-130		
2-Chlorophenol	1510	330	ug/kg wet	2000.0		75	50-130		
2-Methylnaphthalene	1510	330	ug/kg wet	2000.0		75	60-100		
2-Methylphenol	1500	330	ug/kg wet	2000.0		75	60-120		
2-Nitroaniline	1660	1650	ug/kg wet	2000.0		83	60-130		
2-Nitrophenol	1430	330	ug/kg wet	2000.0		72	50-130		
3,3'-Dichlorobenzidine	1120	660	ug/kg wet	2000.0		56	20-140		
3-Nitroaniline	1550 J	1650	ug/kg wet	2000.0		78	40-130		
4,6-Dinitro-2-methylphenol	1820	330	ug/kg wet	2000.0		91	40-140		
4-Bromophenyl Phenyl Ether	1680	330	ug/kg wet	2000.0		84	50-120		
4-Chloro-3-methylphenol	1480	330	ug/kg wet	2000.0		74	60-130		
4-Chloroaniline	1060	330	ug/kg wet	2000.0		53	20-120		
4-Chlorophenyl Phenyl Ether	1640	330	ug/kg wet	2000.0		82	50-120		
3- and/or 4-Methylphenol	1530	330	ug/kg wet	2000.0		76	60-130		
4-Nitroaniline	1400 J	1650	ug/kg wet	2000.0		70	50-120		
4-Nitrophenol	965 J	1650	ug/kg wet	2000.0		48	40-140		
Acenaphthene	1590	330	ug/kg wet	2000.0		80	60-130		
Acenaphthylene	1560	330	ug/kg wet	2000.0		78	60-110		
Anthracene	1650	330	ug/kg wet	2000.0		83	60-130		
Benz[a]anthracene	1780	330	ug/kg wet	2000.0		89	50-130		
Benzo[a] pyrene	1770	330	ug/kg wet	2000.0		88	50-130		
Benzo[b] fluoranthene	1860	330	ug/kg wet	2000.0		93	60-130		
Benzo[g,h,i] perylene	1920	330	ug/kg wet	2000.0		96	60-140		
Benzo[k] fluoranthene	1790	330	ug/kg wet	2000.0		89	50-130		
Bis(2-chloroethoxy) methane	1530	330	ug/kg wet	2000.0		76	40-140		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-107 Project Number: K2105 Project Manager: Joan Kessner	**Reported:** 07/13/2010 12:47

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 L006248 - SW 3540C									
LCS (L006248-BS1)			Prepared: 06/23/2010 Analyzed: 06/29/2010						
Bis(2-chloroethyl) ether	1560	330	ug/kg wet	2000.0		78	50-130		
Bis(2-chloroisopropyl) ether	1560	330	ug/kg wet	2000.0		78	50-120		
Bis(2-ethylhexyl) phthalate	1910	330	ug/kg wet	2000.0		95	50-150		
Butyl Benzyl Phthalate	1920	330	ug/kg wet	2000.0		96	50-150		
Carbazole	1620	330	ug/kg wet	2000.0		81	60-120		
Chrysene	1630	330	ug/kg wet	2000.0		81	50-130		
Dibenz[a,h]anthracene	1890	330	ug/kg wet	2000.0		94	50-140		
Dibenzofuran	1610	330	ug/kg wet	2000.0		81	60-130		
Diethyl Phthalate	1730	330	ug/kg wet	2000.0		87	50-130		
Dimethyl Phthalate	1690	330	ug/kg wet	2000.0		85	50-140		
Di-n-butyl Phthalate	1860	330	ug/kg wet	2000.0		93	40-150		
Di-n-octyl Phthalate	2240	330	ug/kg wet	2000.0		112	50-150		
Fluoranthene	1790	330	ug/kg wet	2000.0		90	50-130		
Fluorene	1610	330	ug/kg wet	2000.0		81	60-130		
Hexachlorobenzene	1840	330	ug/kg wet	2000.0		92	60-130		
Hexachlorobutadiene	1590	330	ug/kg wet	2000.0		80	40-130		
Hexachlorocyclopentadiene	1320	330	ug/kg wet	2000.0		66	20-100		
Hexachloroethane	1420	330	ug/kg wet	2000.0		71	50-110		
Indeno[1,2,3-cd]pyrene	1850	330	ug/kg wet	2000.0		93	60-140		
Isophorone	1380	330	ug/kg wet	2000.0		69	60-120		
Naphthalene	1490	330	ug/kg wet	2000.0		75	40-130		
Nitrobenzene	1410	330	ug/kg wet	2000.0		71	50-110		
N-Nitrosodi-n-propylamine	1750	330	ug/kg wet	2000.0		88	50-130		
N-Nitrosodiphenylamine	1780	330	ug/kg wet	2000.0		89	50-130		
Pentachlorophenol	1510 J	1650	ug/kg wet	2000.0		75	30-130		
Phenanthrene	1780	330	ug/kg wet	2000.0		89	60-130		
Phenol	1500	330	ug/kg wet	2000.0		75	50-130		
Pyrene	1830	330	ug/kg wet	2000.0		92	50-140		
Surrogate: 2-Fluorophenol	*1950*		*ug/kg wet*	*2500.0*		*78*	*25-121*		
Surrogate: Phenol-d5	*1990*		*ug/kg wet*	*2500.0*		*79*	*24-113*		
Surrogate: Nitrobenzene-d5	*1240*		*ug/kg wet*	*1666.7*		*74*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*1340*		*ug/kg wet*	*1666.7*		*81*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*993*		*ug/kg wet*	*2500.0*		*40*	*19-122*		
Surrogate: p-Terphenyl-d14	*1450*		*ug/kg wet*	*1666.7*		*87*	*18-137*		

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

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 L006248 - SW 3540C									
Matrix Spike (L006248-MS1)	**Source: 1006088-01**	Prepared: 06/23/2010 Analyzed: 06/29/2010							
1,2,4-Trichlorobenzene	1090	352	ug/kg dry	2133.6	349 U	51*	60-120		
1,2-Dichlorobenzene	1240	352	ug/kg dry	2133.6	349 U	58	50-110		
1,3-Dichlorobenzene	1180	352	ug/kg dry	2133.6	349 U	55	50-110		
1,4-Dichlorobenzene	1170	352	ug/kg dry	2133.6	349 U	55	50-120		
2,4,5-Trichlorophenol	1290	352	ug/kg dry	2133.6	349 U	60	50-110		
2,4,6-Trichlorophenol	690	352	ug/kg dry	2133.6	349 U	32*	50-110		
2,4-Dichlorophenol	1230	352	ug/kg dry	2133.6	349 U	58	45-110		
2,4-Dimethylphenol	1160	352	ug/kg dry	2133.6	349 U	54	50-120		
2,4-Dinitrophenol	1710 J	1760	ug/kg dry	2133.6	1750 U	80	20-120		
2,4-Dinitrotoluene	1730	352	ug/kg dry	2133.6	349 U	81	60-130		
2,6-Dinitrotoluene	1770	352	ug/kg dry	2133.6	349 U	83	50-140		
2-Chloronaphthalene	1510	352	ug/kg dry	2133.6	349 U	71	50-130		
2-Chlorophenol	1240	352	ug/kg dry	2133.6	349 U	58	50-130		
2-Methylnaphthalene	1210	352	ug/kg dry	2133.6	349 U	57*	60-100		
2-Methylphenol	1310	352	ug/kg dry	2133.6	349 U	61	60-120		
2-Nitroaniline	1630 J	1760	ug/kg dry	2133.6	1750 U	76	60-130		
2-Nitrophenol	1160	352	ug/kg dry	2133.6	349 U	54	50-130		
3,3'-Dichlorobenzidine	905	704	ug/kg dry	2133.6	698 U	42	20-140		
3-Nitroaniline	1420 J	1760	ug/kg dry	2133.6	1750 U	67	40-130		
4,6-Dinitro-2-methylphenol	1630	352	ug/kg dry	2133.6	349 U	77	40-140		
4-Bromophenyl Phenyl Ether	1650	352	ug/kg dry	2133.6	349 U	77	50-120		
4-Chloro-3-methylphenol	1360	352	ug/kg dry	2133.6	349 U	64	60-130		
4-Chloroaniline	775	352	ug/kg dry	2133.6	349 U	36	20-120		
4-Chlorophenyl Phenyl Ether	1670	352	ug/kg dry	2133.6	349 U	78	50-120		
3- and/or 4-Methylphenol	1370	352	ug/kg dry	2133.6	349 U	64	60-130		
4-Nitroaniline	1480 J	1760	ug/kg dry	2133.6	1750 U	70	50-120		
4-Nitrophenol	1380 J	1760	ug/kg dry	2133.6	1750 U	65	40-140		
Acenaphthene	1520	352	ug/kg dry	2133.6	349 U	71	60-130		
Acenaphthylene	1580	352	ug/kg dry	2133.6	349 U	74	60-110		
Anthracene	1670	352	ug/kg dry	2133.6	349 U	78	60-130		
Benz[a]anthracene	1690	352	ug/kg dry	2133.6	349 U	79	50-130		
Benzo[a] pyrene	1670	352	ug/kg dry	2133.6	349 U	78	50-130		
Benzo[b] fluoranthene	1710	352	ug/kg dry	2133.6	349 U	80	60-130		
Benzo[g,h,i] perylene	1520	352	ug/kg dry	2133.6	349 U	71	60-140		
Benzo[k] fluoranthene	1580	352	ug/kg dry	2133.6	349 U	74	50-130		
Bis(2-chloroethoxy) methane	1180	352	ug/kg dry	2133.6	349 U	55	40-140		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-107 Project Number: K2105 Project Manager: Joan Kessner	**Reported:** 07/13/2010 12:47

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 L006248 - SW 3540C									
Matrix Spike (L006248-MS1)	**Source: 1006088-01**		Prepared: 06/23/2010 Analyzed: 06/29/2010						
Bis(2-chloroethyl) ether	1180	352	ug/kg dry	2133.6	349 U	55	50-130		
Bis(2-chloroisopropyl) ether	1130	352	ug/kg dry	2133.6	349 U	53	50-120		
Bis(2-ethylhexyl) phthalate	1860	352	ug/kg dry	2133.6	349 U	87	50-150		
Butyl Benzyl Phthalate	1770	352	ug/kg dry	2133.6	349 U	83	50-150		
Carbazole	1570	352	ug/kg dry	2133.6	349 U	73	60-120		
Chrysene	1650	352	ug/kg dry	2133.6	349 U	77	50-130		
Dibenz[a,h]anthracene	1600	352	ug/kg dry	2133.6	349 U	75	50-140		
Dibenzofuran	1610	352	ug/kg dry	2133.6	349 U	75	60-130		
Diethyl Phthalate	1750	352	ug/kg dry	2133.6	349 U	82	50-130		
Dimethyl Phthalate	1730	352	ug/kg dry	2133.6	349 U	81	50-140		
Di-n-butyl Phthalate	1760	352	ug/kg dry	2133.6	349 U	83	40-150		
Di-n-octyl Phthalate	1920	352	ug/kg dry	2133.6	349 U	90	50-150		
Fluoranthene	1760	352	ug/kg dry	2133.6	349 U	83	50-130		
Fluorene	1620	352	ug/kg dry	2133.6	349 U	76	60-130		
Hexachlorobenzene	1740	352	ug/kg dry	2133.6	349 U	82	60-130		
Hexachlorobutadiene	1240	352	ug/kg dry	2133.6	349 U	58	40-130		
Hexachlorocyclopentadiene	813	352	ug/kg dry	2133.6	349 U	38	20-100		
Hexachloroethane	1140	352	ug/kg dry	2133.6	349 U	54	50-110		
Indeno[1,2,3-cd]pyrene	1570	352	ug/kg dry	2133.6	349 U	74	60-140		
Isophorone	1100	352	ug/kg dry	2133.6	349 U	51*	60-120		
Naphthalene	1120	352	ug/kg dry	2133.6	349 U	53	40-130		
Nitrobenzene	1060	352	ug/kg dry	2133.6	349 U	50	50-110		
N-Nitrosodi-n-propylamine	1260	352	ug/kg dry	2133.6	349 U	59	50-130		
N-Nitrosodiphenylamine	1480	352	ug/kg dry	2133.6	349 U	69	50-130		
Pentachlorophenol	1090 J	1760	ug/kg dry	2133.6	1750 U	51	30-130		
Phenanthrene	1610	352	ug/kg dry	2133.6	349 U	76	60-130		
Phenol	1250	352	ug/kg dry	2133.6	349 U	58	50-130		
Pyrene	1660	352	ug/kg dry	2133.6	349 U	78	50-140		
Surrogate: 2-Fluorophenol	*1320*		*ug/kg dry*	*2667.0*		*49*	*25-121*		
Surrogate: Phenol-d5	*1490*		*ug/kg dry*	*2667.0*		*56*	*24-113*		
Surrogate: Nitrobenzene-d5	*855*		*ug/kg dry*	*1778.0*		*48*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*1240*		*ug/kg dry*	*1778.0*		*69*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*850*		*ug/kg dry*	*2667.0*		*32*	*19-122*		
Surrogate: p-Terphenyl-d14	*1360*		*ug/kg dry*	*1778.0*		*77*	*18-137*		

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

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 L006248 - SW 3540C									
Matrix Spike Dup (L006248-MSD1)	**Source: 1006088-01**	Prepared: 06/23/2010 Analyzed: 06/29/2010							
1,2,4-Trichlorobenzene	1060	349	ug/kg dry	2113.2	349 U	50*	60-120	1	40
1,2-Dichlorobenzene	1110	349	ug/kg dry	2113.2	349 U	52	50-110	10	40
1,3-Dichlorobenzene	1030	349	ug/kg dry	2113.2	349 U	49*	50-110	13	40
1,4-Dichlorobenzene	1020	349	ug/kg dry	2113.2	349 U	48*	50-120	13	40
2,4,5-Trichlorophenol	1500	349	ug/kg dry	2113.2	349 U	71	50-110	16	40
2,4,6-Trichlorophenol	1180	349	ug/kg dry	2113.2	349 U	56	50-110	53*	40
2,4-Dichlorophenol	1200	349	ug/kg dry	2113.2	349 U	57	45-110	1	40
2,4-Dimethylphenol	748	349	ug/kg dry	2113.2	349 U	35*	50-120	42*	40
2,4-Dinitrophenol	1280 J	1740	ug/kg dry	2113.2	1750 U	61	20-120	28	40
2,4-Dinitrotoluene	1770	349	ug/kg dry	2113.2	349 U	84	60-130	3	40
2,6-Dinitrotoluene	1700	349	ug/kg dry	2113.2	349 U	80	50-140	3	40
2-Chloronaphthalene	1500	349	ug/kg dry	2113.2	349 U	71	50-130	0.1	40
2-Chlorophenol	1200	349	ug/kg dry	2113.2	349 U	57	50-130	2	40
2-Methylnaphthalene	1200	349	ug/kg dry	2113.2	349 U	57*	60-100	0.3	40
2-Methylphenol	1250	349	ug/kg dry	2113.2	349 U	59*	60-120	4	40
2-Nitroaniline	1580 J	1740	ug/kg dry	2113.2	1750 U	75	60-130	2	40
2-Nitrophenol	1120	349	ug/kg dry	2113.2	349 U	53	50-130	2	40
3,3'-Dichlorobenzidine	899	697	ug/kg dry	2113.2	698 U	43	20-140	0.3	40
3-Nitroaniline	1390 J	1740	ug/kg dry	2113.2	1750 U	66	40-130	1	40
4,6-Dinitro-2-methylphenol	1470	349	ug/kg dry	2113.2	349 U	69	40-140	10	40
4-Bromophenyl Phenyl Ether	1620	349	ug/kg dry	2113.2	349 U	77	50-120	0.6	40
4-Chloro-3-methylphenol	1200	349	ug/kg dry	2113.2	349 U	57*	60-130	12	40
4-Chloroaniline	706	349	ug/kg dry	2113.2	349 U	33	20-120	8	40
4-Chlorophenyl Phenyl Ether	1600	349	ug/kg dry	2113.2	349 U	76	50-120	3	40
3- and/or 4-Methylphenol	1270	349	ug/kg dry	2113.2	349 U	60	60-130	7	40
4-Nitroaniline	1440 J	1740	ug/kg dry	2113.2	1750 U	68	50-120	2	40
4-Nitrophenol	1510 J	1740	ug/kg dry	2113.2	1750 U	71	40-140	10	40
Acenaphthene	1500	349	ug/kg dry	2113.2	349 U	71	60-130	0.6	40
Acenaphthylene	1500	349	ug/kg dry	2113.2	349 U	71	60-110	4	40
Anthracene	1660	349	ug/kg dry	2113.2	349 U	78	60-130	0.3	40
Benz[a]anthracene	1720	349	ug/kg dry	2113.2	349 U	81	50-130	3	40
Benzo[a] pyrene	1700	349	ug/kg dry	2113.2	349 U	81	50-130	3	20
Benzo[b] fluoranthene	1700	349	ug/kg dry	2113.2	349 U	80	60-130	0.1	20
Benzo[g,h,i] perylene	1620	349	ug/kg dry	2113.2	349 U	77	60-140	7	20
Benzo[k] fluoranthene	1620	349	ug/kg dry	2113.2	349 U	77	50-130	4	20
Bis(2-chloroethoxy) methane	1150	349	ug/kg dry	2113.2	349 U	54	40-140	2	40

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: K2105	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	07/13/2010 12:47

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 L006248 - SW 3540C									
Matrix Spike Dup (L006248-MSD1)	**Source: 1006088-01**		Prepared: 06/23/2010 Analyzed: 06/29/2010						
Bis(2-chloroethyl) ether	1070	349	ug/kg dry	2113.2	349 U	51	50-130	8	40
Bis(2-chloroisopropyl) ether	1070	349	ug/kg dry	2113.2	349 U	51	50-120	5	40
Bis(2-ethylhexyl) phthalate	1900	349	ug/kg dry	2113.2	349 U	90	50-150	3	40
Butyl Benzyl Phthalate	1830	349	ug/kg dry	2113.2	349 U	87	50-150	4	40
Carbazole	1600	349	ug/kg dry	2113.2	349 U	75	60-120	3	40
Chrysene	1680	349	ug/kg dry	2113.2	349 U	80	50-130	3	40
Dibenz[a,h]anthracene	1680	349	ug/kg dry	2113.2	349 U	79	50-140	6	40
Dibenzofuran	1540	349	ug/kg dry	2113.2	349 U	73	60-130	3	40
Diethyl Phthalate	1750	349	ug/kg dry	2113.2	349 U	83	50-130	0.8	40
Dimethyl Phthalate	1670	349	ug/kg dry	2113.2	349 U	79	50-140	2	40
Di-n-butyl Phthalate	1780	349	ug/kg dry	2113.2	349 U	84	40-150	2	40
Di-n-octyl Phthalate	1960	349	ug/kg dry	2113.2	349 U	93	50-150	3	40
Fluoranthene	1730	349	ug/kg dry	2113.2	349 U	82	50-130	0.9	40
Fluorene	1550	349	ug/kg dry	2113.2	349 U	73	60-130	3	40
Hexachlorobenzene	1690	349	ug/kg dry	2113.2	349 U	80	60-130	2	40
Hexachlorobutadiene	1200	349	ug/kg dry	2113.2	349 U	57	40-130	3	40
Hexachlorocyclopentadiene	869	349	ug/kg dry	2113.2	349 U	41	20-100	8	40
Hexachloroethane	989	349	ug/kg dry	2113.2	349 U	47*	50-110	14	40
Indeno[1,2,3-cd]pyrene	1680	349	ug/kg dry	2113.2	349 U	79	60-140	7	40
Isophorone	1050	349	ug/kg dry	2113.2	349 U	50*	60-120	3	40
Naphthalene	1080	349	ug/kg dry	2113.2	349 U	51	40-130	3	40
Nitrobenzene	1010	349	ug/kg dry	2113.2	349 U	48*	50-110	5	40
N-Nitrosodi-n-propylamine	1260	349	ug/kg dry	2113.2	349 U	59	50-130	0.3	40
N-Nitrosodiphenylamine	1500	349	ug/kg dry	2113.2	349 U	71	50-130	2	40
Pentachlorophenol	1070 J	1740	ug/kg dry	2113.2	1750 U	51	30-130	0.8	40
Phenanthrene	1620	349	ug/kg dry	2113.2	349 U	77	60-130	1	40
Phenol	1180	349	ug/kg dry	2113.2	349 U	56	50-130	5	40
Pyrene	1710	349	ug/kg dry	2113.2	349 U	81	50-140	4	40
Surrogate: 2-Fluorophenol	*1310*		*ug/kg dry*	*2641.5*		*50*	*25-121*		
Surrogate: Phenol-d5	*1490*		*ug/kg dry*	*2641.5*		*56*	*24-113*		
Surrogate: Nitrobenzene-d5	*867*		*ug/kg dry*	*1761.0*		*49*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*1300*		*ug/kg dry*	*1761.0*		*74*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*1330*		*ug/kg dry*	*2641.5*		*50*	*19-122*		
Surrogate: p-Terphenyl-d14	*1370*		*ug/kg dry*	*1761.0*		*78*	*18-137*		

PREPARATION BENCH SHEET

L006248

Lionville Laboratory

Printed: 6/29/2010 11:00:47AM

Matrix: Solid **Prepared using: SVOCGCMS - SW 3540C** **Surrogate used: 1001157**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1006088-01	8270C TCL SVOC	06/23/2010 09:49	30.24	1				500	WC-Hanford, Inc.	
1006088-02	8270C TCL SVOC	06/23/2010 09:49	30	1				500	WC-Hanford, Inc.	
1006088-03	8270C TCL SVOC	06/23/2010 09:49	30.38	1				500	WC-Hanford, Inc.	
1006088-04	8270C TCL SVOC	06/23/2010 09:49	30.03	1				500	WC-Hanford, Inc.	
1006088-05	8270C TCL SVOC	06/23/2010 09:49	30.06	1				500	WC-Hanford, Inc.	
1006088-06	8270C TCL SVOC	06/23/2010 09:49	30.09	1				500	WC-Hanford, Inc.	
L006248-BLK1	QC	06/23/2010 09:49	30	1				500		
L006248-BS1	QC	06/23/2010 09:49	30	1	1000933		600	500		
L006248-MS1	QC	06/23/2010 09:49	30	1	1000933	1006088-01	600	500		
L006248-MSD1	QC	06/23/2010 09:49	30.29	1	1000933	1006088-01	600	500		

Benjamin Harris 6/29/10 11:07
Extracts Relinquished By Date

6/29/10 1130
Extracts Received By Date

Lionville Laboratory Use Only: 1006088

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: W.C. Hanford SAF# RC-107

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: Arlette Johnson

QC: SW Del: STD TAT: 21 days

Date Rec'd: 6-22-10 Date Due: 7-13-10

	A	B	C	D	E
Refrigerator #	2	2	2	2	2
#/Type Container (Liquid / Solid)	1qt	1qt	1qt	1qt	1qt
Volume	120	120	250	120	250
Preservatives	—	—	—	—	—

ANALYSES REQUESTED →

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA (ORGANIC)	Pest/PCB (ORGANIC)	Herb (ORGANIC)	PCBs	TPH-D	PAHs 8310	Metal + Hg (INORG)	CN (INORG)	Cr+6
								Lionville Laboratory Use Only									
									625	608		PCB	DRO	PAH	Metal		CR6
S- Soil	01	J1B893			S	6-17-10	0815		X	X		X	X	X	X		X
SE- Sediment	02	J1B894					0825		X	X		X	X	X	X		X
SO- Solid	03	J1B895					1015		X	X		X	X	X	X		X
SL- Sludge	04	J1B896					0810		X	X		X	X	X	X		X
W- Water	05	J1B897					1030		X	X		X	X	X	X		X
O- Oil	06	J1B8B1					1030		X	X		X	X	X	X		X
A- Air																	
DS- Drum Solids																	
DL- Drum Liquids																	
L- EP/TCLP Leachate																	
WI- Wipe																	
X- Other																	
F- Fish																	

Special Instructions: Run matrix QC

MatQ = HSL+B, mo, S; NOTL

Special Instructions:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	6-23-10	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

626000029

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 1 of ~~2~~ 2 6-17-10

Collector: J. Sellers	Company Contact: Don Woolery	Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 128-H-1 C Verification		SAF No.: RC-107
Ice Chest No.: ERC-96-030	Field Logbook No.: EL 1627-4	COA: ~~R~~128H12000 O 6-17-10	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A100222		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
Type of Container	aG	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	0	1	1	1	0	1				
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081				
Sample No. / Matrix * / Sample Date / Sample Time											
J1B893 / SOIL / 6-17-10 / 0815	X	X	X	X	X	X	X				
J1B894 / SOIL / 6-17-10 / 0825	X	X	X	X	X	X	X				
J1B895 / SOIL / 6-17-10 / 1015	X	X	X	X	X	X	X				
J1B896 / SOIL / 6-17-10 / 0810	X	X	X	X	X	X	X				
J1B897 / SOIL / 6-17-10 / 1020	X	X	X	X	X	X	X				

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J. Sellers [signature]	6-17-10 1200	Sterling Howell [signature]	1200 6-17-10
Sterling Howell [signature]	6-17-10 1535	J. E. Bernhard	1535 6-17-10
J. E. Bernhard [signature]	6-21-10 1000	FED EX	
FED EX	6.22.10/ 09:40	Donna Smith [signature]	6.22.10/0940

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SWH DATE 6/21/10

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 2 of ~~7~~ 2 6-17-10

Collector J. Sellers	Company Contact: Don Woolery; Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH	Price Code: 8L; Data Turnaround: 21 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 128-H-1 C Verification	SAF No.: RC-107	
Ice Chest No.: ERC-96-030	Field Logbook No.: EL 1627-4; COA: ~~R~~128H12000 O 6-17-10	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A100222	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container	aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)	1	0	1	1	1	0	1			
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time										
~~J1B898~~ 6-17-10	SOIL												
~~J1B899~~ 6-17-10	SOIL												
~~J1B8B0~~ 6-17-10	SOIL												
J1B8B1	SOIL	6-17-10	1030	X	X	X	X	X	X	X			
~~J1B8B2~~ 6-17-10	SOIL												

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J. Sellers	6-17-10 1200	Sterling Howell	6-17-10 1200
Sterling Howell	6-17-10 1535	J.E. Bernhard	6-17-10 1535
J.E. Bernhard	6-21-10 1000	FED EX	
FED EX	6-22-10/0940	Donna Smith	6-22-10/0940

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SUDH DATE 6/21/10

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

5000000931

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC. Hanford Date: 6-22-10

Project/SAF/SOW/Release #: RC-107

LvL Batch #: 1006088 Sample Custodian: [illegible]

NOTE. EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7987 7799 4728 7987 7799 4772
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:* ERC-01-041 holes in bottom of cooler.
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 3.3 °C 3.6	°C	Cooler # ERC-96-030
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify): ERC-01-041
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 _____	

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-107 Project Number: [none] K2105 Project Manager: Joan Kessner	**Reported:** 07/05/2010 07:38

Analytical Report for Organochlorine Pesticides by SW846 8081A

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1B893	1006088-01	Soil	06/17/2010 08:15	06/22/2010 09:40
J1B894	1006088-02	Soil	06/17/2010 08:25	06/22/2010 09:40
J1B895	1006088-03	Soil	06/17/2010 10:15	06/22/2010 09:40
J1B896	1006088-04	Soil	06/17/2010 08:10	06/22/2010 09:40
J1B897	1006088-05	Soil	06/17/2010 10:20	06/22/2010 09:40
J1B8B1	1006088-06	Soil	06/17/2010 10:30	06/22/2010 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-107 K2105
LVL #: 1006088

W.O. #: 60049-001-001-0001-00
Date Received: 06-22-2010

CHLORINATED PESTICIDES

Six (6) soil samples were collected on 06-17-2010.

The samples and associated QC samples were extracted 06-23-2010 and analyzed 06-29-2010 according to criteria set forth in Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3540C, and the analysis procedure was based on SW846 Method 8081A for client specified target compounds. All samples received Copper-Sulfur cleanup based on SW846 method 3660A.

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. All required holding times for extraction and analysis have been met.

3. All obtainable surrogate recoveries were within acceptance criteria.

4. The method blank was below the reporting limit for all target compounds.

5. All blank spike recoveries were within acceptance criteria.

6. All matrix spike recoveries were within acceptance criteria. A matrix spike duplicate was not analyzed as it was lost during the extraction procedure. A copy of the Sample Discrepancy Report (SDR# 10EX002) has been enclosed.

7. All samples required 4-fold instrument dilutions due to the nature of the matrix. Reporting limits have been adjusted to reflect the necessary dilutions.

8. The samples are reported on a dry weight basis.

9. All initial calibrations associated with this data set were within acceptance criteria.

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 19 pages.

10. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

11. 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 data package has been authorized by the laboratory manager or a designee, as verified by the following signature.

Iain Daniels
LvL Laboratory Manager

7/16/10
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 10EX002

Initiator: Benjamin L. Harris
Date: 7/12/10
Client: WCI-Hanford, inc.

Batch: ~~L006247~~ 1006088 (BLW 7/16/10)
Samples: 1006088-1-T
Method: SW846/MCAWW/CLP/

Parameter: Pest
Matrix: Soil
Prep Batch: L006247

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)

Lost extract during extraction procedure.

BS & MS recoveries are all good

2. Known or Probable Causes(s)

3. Discussion and Proposed Action

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

Other Description:

N. route

No impact on data as all samples are ND, so no precision data if needed. JS. 7/16/10

4. Project Manager Instructions...signature/date: 7/16/10

✓ 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: 7/16/10

Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
X 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~~ BLH
__ Log-in: King

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

QA-139-A-0208

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration 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.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
. I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.
P	=	This flag is used for a dual column analysis (i.e. pesticides/PCB/herbicides) when there is greater than 40% difference for detected concentrations between the two GC columns; the lower of the two values is reported on Form 1 and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking 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	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
NPM	=	No pattern match for multi-component target analytes.

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-107 Project Number: [none] Project Manager: Joan Kessner	**Reported:** 07/05/2010 07:38

J1B893

1006088-01 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Organochlorine Pesticides by SW846 8081A								
alpha-BHC	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-BHC	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
beta-BHC	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
delta-BHC	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Aldrin	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor epoxide	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-Chlordane	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
alpha-Chlordane	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan I	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDE	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Dieldrin	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDD	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan II	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDT	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin aldehyde	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan sulfate	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Methoxychlor	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin ketone	1.41 U	1.41	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Toxaphene	21.2 U	21.2	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Surrogate: Tetrachloro-meta-xylene	*94.2 %*	*28-166*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*
Surrogate: Decachlorobiphenyl	*109 %*	*37-153*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*

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J1B894

1006088-02 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Organochlorine Pesticides by SW846 8081A								
alpha-BHC	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-BHC	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
beta-BHC	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
delta-BHC	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Aldrin	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor epoxide	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-Chlordane	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
alpha-Chlordane	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan I	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDE	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Dieldrin	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDD	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan II	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDT	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin aldehyde	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan sulfate	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Methoxychlor	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin ketone	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Toxaphene	19.5 U	19.5	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Surrogate: Tetrachloro-meta-xylene	*89.1 %*	*28-166*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*
Surrogate: Decachlorobiphenyl	*105 %*	*37-153*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*

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Richland WA, 99354	Project Manager: Joan Kessner	07/05/2010 07:38

J1B895

1006088-03 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Organochlorine Pesticides by SW846 8081A								
alpha-BHC	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-BHC	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
beta-BHC	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
delta-BHC	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Aldrin	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor epoxide	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-Chlordane	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
alpha-Chlordane	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan I	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDE	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Dieldrin	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDD	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan II	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDT	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin aldehyde	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan sulfate	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Methoxychlor	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin ketone	1.30 U	1.30	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Toxaphene	19.5 U	19.5	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Surrogate: Tetrachloro-meta-xylene	*102 %*	*28-166*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*
Surrogate: Decachlorobiphenyl	*114 %*	*37-153*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*

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Richland WA, 99354	Project Manager: Joan Kessner	07/05/2010 07:38

J1B896

1006088-04 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Organochlorine Pesticides by SW846 8081A								
alpha-BHC	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-BHC	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
beta-BHC	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
delta-BHC	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Aldrin	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor epoxide	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-Chlordane	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
alpha-Chlordane	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan I	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDE	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Dieldrin	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDD	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan II	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDT	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin aldehyde	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan sulfate	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Methoxychlor	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin ketone	1.36 U	1.36	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Toxaphene	20.4 U	20.4	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Surrogate: Tetrachloro-meta-xylene	*93.0 %*	*28-166*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*
Surrogate: Decachlorobiphenyl	*109 %*	*37-153*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*

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Richland WA, 99354	Project Manager: Joan Kessner	07/05/2010 07:38

J1B897

1006088-05 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Organochlorine Pesticides by SW846 8081A								
alpha-BHC	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-BHC	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
beta-BHC	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
delta-BHC	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Aldrin	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor epoxide	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-Chlordane	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
alpha-Chlordane	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan I	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDE	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Dieldrin	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDD	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan II	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDT	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin aldehyde	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan sulfate	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Methoxychlor	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin ketone	1.39 U	1.39	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Toxaphene	20.8 U	20.8	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Surrogate: Tetrachloro-meta-xylene	*107 %*	*28-166*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*
Surrogate: Decachlorobiphenyl	*118 %*	*37-153*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/05/2010 07:38

J1B8B1

1006088-06 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Organochlorine Pesticides by SW846 8081A								
alpha-BHC	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-BHC	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
beta-BHC	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
delta-BHC	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Aldrin	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Heptachlor epoxide	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
gamma-Chlordane	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
alpha-Chlordane	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan I	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDE	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Dieldrin	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDD	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan II	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
4,4'-DDT	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin aldehyde	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endosulfan sulfate	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Methoxychlor	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Endrin ketone	1.43 U	1.43	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Toxaphene	21.5 U	21.5	ug/kg dry	4	L006247	06/23/2010	06/29/2010	8081A
Surrogate: Tetrachloro-meta-xylene	*104 %*	*28-166*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*
Surrogate: Decachlorobiphenyl	*117 %*	*37-153*			*L006247*	*06/23/2010*	*06/29/2010*	*8081A*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-107 Project Number: [none] Project Manager: Joan Kessner	**Reported:** 07/05/2010 07:38

Organochlorine Pesticides by SW846 8081A - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L006247 - SW 3540C									
Blank (L006247-BLK1)			Prepared: 06/23/2010 Analyzed: 06/29/2010						
alpha-BHC	0.333 U	0.333	ug/kg wet						
gamma-BHC	0.333 U	0.333	ug/kg wet						
beta-BHC	0.333 U	0.333	ug/kg wet						
delta-BHC	0.333 U	0.333	ug/kg wet						
Heptachlor	0.333 U	0.333	ug/kg wet						
Aldrin	0.333 U	0.333	ug/kg wet						
Heptachlor epoxide	0.333 U	0.333	ug/kg wet						
gamma-Chlordane	0.333 U	0.333	ug/kg wet						
alpha-Chlordane	0.333 U	0.333	ug/kg wet						
Endosulfan I	0.333 U	0.333	ug/kg wet						
4,4'-DDE	0.333 U	0.333	ug/kg wet						
Dieldrin	0.333 U	0.333	ug/kg wet						
Endrin	0.333 U	0.333	ug/kg wet						
4,4'-DDD	0.333 U	0.333	ug/kg wet						
Endosulfan II	0.333 U	0.333	ug/kg wet						
4,4'-DDT	0.333 U	0.333	ug/kg wet						
Endrin aldehyde	0.333 U	0.333	ug/kg wet						
Endosulfan sulfate	0.333 U	0.333	ug/kg wet						
Methoxychlor	0.333 U	0.333	ug/kg wet						
Endrin ketone	0.333 U	0.333	ug/kg wet						
Toxaphene	5.00 U	5.00	ug/kg wet						
Surrogate: Tetrachloro-meta-xylene	*29.4*		*ug/kg wet*	*33.337*		*88.1*	*28-166*		
Surrogate: Decachlorobiphenyl	*31.0*		*ug/kg wet*	*33.333*		*93.0*	*37-153*		
LCS (L006247-BS1)			Prepared: 06/23/2010 Analyzed: 06/29/2010						
alpha-BHC	35.5	0.333	ug/kg wet	33.333		107	61-142		
gamma-BHC	35.6	0.333	ug/kg wet	33.333		107	65-142		
beta-BHC	35.7	0.333	ug/kg wet	33.333		107	71-134		
delta-BHC	25.4	0.333	ug/kg wet	33.333		76.1	53-144		
Heptachlor	33.5	0.333	ug/kg wet	33.333		100	70-138		
Aldrin	34.8	0.333	ug/kg wet	33.333		104	70-143		
Heptachlor epoxide	34.1	0.333	ug/kg wet	33.333		102	72-140		
gamma-Chlordane	34.9	0.333	ug/kg wet	33.333		105	74-140		
alpha-Chlordane	35.3	0.333	ug/kg wet	33.333		106	74-138		
Endosulfan I	39.6	0.333	ug/kg wet	33.333		119	81-141		
4,4'-DDE	43.3	0.333	ug/kg wet	33.333		130	82-145		
Dieldrin	36.1	0.333	ug/kg wet	33.333		108	79-144		

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/05/2010 07:38

Organochlorine Pesticides by SW846 8081A - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L006247 - SW 3540C									
LCS (L006247-BS1)			Prepared: 06/23/2010 Analyzed: 06/29/2010						
Endrin	36.9	0.333	ug/kg wet	33.333		111	73-147		
4,4'-DDD	40.1	0.333	ug/kg wet	33.333		120	77-148		
Endosulfan II	35.6	0.333	ug/kg wet	33.333		107	80-140		
4,4'-DDT	34.1	0.333	ug/kg wet	33.333		102	82-142		
Endrin aldehyde	26.5	0.333	ug/kg wet	33.333		79.5	59-133		
Endosulfan sulfate	33.7	0.333	ug/kg wet	33.333		101	77-135		
Methoxychlor	33.0	0.333	ug/kg wet	33.333		98.9	77-136		
Endrin ketone	37.3	0.333	ug/kg wet	33.333		112	85-134		
Surrogate: Tetrachloro-meta-xylene	*30.6*		*ug/kg wet*	*33.337*		*91.9*	*28-166*		
Surrogate: Decachlorobiphenyl	*32.4*		*ug/kg wet*	*33.333*		*97.2*	*37-153*		
Matrix Spike (L006247-MS1)		**Source: 1006088-01**	Prepared: 06/23/2010 Analyzed: 06/29/2010						
alpha-BHC	29.7 D	1.42	ug/kg dry	35.430	1.41 U	83.7	61-142		
gamma-BHC	31.5 D	1.42	ug/kg dry	35.430	1.41 U	88.9	65-142		
beta-BHC	36.6 D	1.42	ug/kg dry	35.430	1.41 U	103	71-134		
delta-BHC	19.8 D	1.42	ug/kg dry	35.430	1.41 U	55.8	53-144		
Heptachlor	32.9 D	1.42	ug/kg dry	35.430	1.41 U	92.9	70-138		
Aldrin	31.1 D	1.42	ug/kg dry	35.430	1.41 U	87.7	70-143		
Heptachlor epoxide	33.0 D	1.42	ug/kg dry	35.430	1.41 U	93.2	72-140		
gamma-Chlordane	32.7 D	1.42	ug/kg dry	35.430	1.41 U	92.4	74-140		
alpha-Chlordane	33.8 D	1.42	ug/kg dry	35.430	1.41 U	95.5	74-138		
Endosulfan I	35.1 D	1.42	ug/kg dry	35.430	1.41 U	99.2	81-141		
4,4'-DDE	38.4 D	1.42	ug/kg dry	35.430	1.41 U	108	82-145		
Dieldrin	32.6 D	1.42	ug/kg dry	35.430	1.41 U	92.0	79-144		
Endrin	33.6 D	1.42	ug/kg dry	35.430	1.41 U	94.9	73-147		
4,4'-DDD	35.0 D	1.42	ug/kg dry	35.430	1.41 U	98.8	77-148		
Endosulfan II	34.0 D	1.42	ug/kg dry	35.430	1.41 U	96.1	80-140		
4,4'-DDT	30.8 D	1.42	ug/kg dry	35.430	1.41 U	86.9	82-142		
Endrin aldehyde	27.0 D	1.42	ug/kg dry	35.430	1.41 U	76.3	59-133		
Endosulfan sulfate	32.2 D	1.42	ug/kg dry	35.430	1.41 U	91.0	77-135		
Methoxychlor	35.1 D	1.42	ug/kg dry	35.430	1.41 U	99.2	77-136		
Endrin ketone	36.5 D	1.42	ug/kg dry	35.430	1.41 U	103	85-134		
Surrogate: Tetrachloro-meta-xylene	*31.2*		*ug/kg dry*	*35.433*		*88.0*	*28-166*		
Surrogate: Decachlorobiphenyl	*35.8*		*ug/kg dry*	*35.430*		*101*	*37-153*		

PREPARATION BENCH SHEET

L006247

Lionville Laboratory

Printed: 6/29/2010 10:35:42AM

Matrix: Solid **Prepared using: GC - SW 3540C** **Surrogate used: 1001165**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
~~1006070-01~~	~~8081A TCL Pesticides~~ VOID	~~06/23/2010 09:42~~	~~0.52~~	~~10~~				~~250~~	~~Bechtel Bettis Inc.~~	~~Added for BatchQC in: L006247~~
1006070-01	8082 PCBs	06/23/2010 09:42	0.52	10				250	Bechtel Bettis Inc.	
1006088-01	8081A TCL Pesticides	06/23/2010 09:42	30.15	10				250	WC-Hanford, Inc.	
1006088-01	8082 PCBs	06/23/2010 09:42	30.15	10				250	WC-Hanford, Inc.	
1006088-02	8081A TCL Pesticides	06/23/2010 09:42	31.4	10				250	WC-Hanford, Inc.	
1006088-02	8082 PCBs	06/23/2010 09:42	31.4	10				250	WC-Hanford, Inc.	
1006088-03	8081A TCL Pesticides	06/23/2010 09:42	31.34	10				250	WC-Hanford, Inc.	
1006088-03	8082 PCBs	06/23/2010 09:42	31.34	10				250	WC-Hanford, Inc.	
1006088-04	8081A TCL Pesticides	06/23/2010 09:42	30	10				250	WC-Hanford, Inc.	
1006088-04	8082 PCBs	06/23/2010 09:42	30	10				250	WC-Hanford, Inc.	
1006088-05	8081A TCL Pesticides	06/23/2010 09:42	30.43	10				250	WC-Hanford, Inc.	
1006088-05	8082 PCBs	06/23/2010 09:42	30.43	10				250	WC-Hanford, Inc.	
1006088-06	8081A TCL Pesticides	06/23/2010 09:42	30.44	10				250	WC-Hanford, Inc.	
1006088-06	8082 PCBs	06/23/2010 09:42	30.44	10				250	WC-Hanford, Inc.	
L006247-BLK1	QC	06/23/2010 09:42	30	10				250		Pest
L006247-BLK2	QC	06/23/2010 09:42	30	10				250		PCB
L006247-BS1	QC	06/23/2010 09:42	30	10	1001086		250	250		Pest
L006247-BS2	QC	06/23/2010 09:42	30	10	1000526		250	250		PCB
L006247-MS1	QC	06/23/2010 09:42	30.11	10	1001086	1006088-01	250	250		Pest
L006247-MS2	QC	06/23/2010 09:42	30.33	10	1000526	1006088-01	250	250		PCB

Cu cleanup (B124021) 06.29.10 11:40 SZ

Benjamin Harris 6/29/10 11:07 — Extracts Relinquished By — Date

S Shah 06/29/10 11:2x — Extracts Received By — Date

PREPARATION BENCH SHEET

L006247

Lionville Laboratory

Printed: 6/29/2010 10:35:42AM

Matrix: Solid **Prepared using: GC - SW 3540C** **Surrogate used: 1001165**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L006247-MS3	QC	06/23/2010 09:42	0.55	10	1000526	1006070-01	250	250		PCB
~~L006247-MSD1~~	QC	06/23/2010 09:42	30.28	10	1001086	1006088-01	250	250		Pest
L006247-MSD2	QC	06/23/2010 09:42	30.41	10	1000526	1006088-01	250	250		PCB
L006247-MSD3	QC	06/23/2010 09:42	0.54	10	1000526	1006070-01	250	250		PCB

Benjamin L Harris 6/29/10 11:07
Extracts Relinquished By Date

S Lah 06/29/10 11:20
Extracts Received By Date

See SRC

Lionville Laboratory Use Only: 1006088

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: W.C. Hanford SAF# RC-107

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: Arlette Johnson

QC: SW Del: STD TAT: 21 days

Date Rec'd: 6-22-10 Date Due: 7-13-10

		A	B		C	D		E							
Refrigerator #		2	2		2	2		2							
#/Type Container	Liquid	1qal	1qal		1qal	1qal		1qa							
	Solid														
Volume		120	120		250	120		250							
Preservatives		—	—		—	—		—							
ANALYSES REQUESTED		ORGANIC: VOA	BNA	Pest/PCB	Herb	PCBs	TPH-D	PAHs 8310	INORG: Metal + Hg	CN	Cr+6				
Lionville Laboratory Use Only			625	608		PCB	DRO	PAH	MetC		CR6				

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	625	608	PCB	DRO	PAH	MetC	CR6
01	J1B893			S	6-17-10	0815	X	X	X	X	X	X	X
02	J1B894					0825	X	X	X	X	X	X	X
03	J1B895					1015	X	X	X	X	X	X	X
04	J1B896					0810	X	X	X	X	X	X	X
05	J1B897					1030	X	X	X	X	X	X	X
06	J1B8B1					1030	X	X	X	X	X	X	X

Special Instructions: Run matrix QC

MetC = HSL + B, Mo, Si

NOTL

Special Instructions:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6-22-10	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

9100000016

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 1 of ~~2~~ 2 6-17-10

Collector J. Sellers	Company Contact: Don Woolery Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH	Price Code: 8L Data Turnaround: 21 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 128-H-1 C Verification	SAF No.: RC-107	
Ice Chest No.: ERC-96-030	Field Logbook No.: EL 1627-4 COA: ~~R~~128H12000 0 6-17-10	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A100222	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
Type of Container	aG	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	0	1	1	1	0	1				
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081				

Sample No.	Matrix *	Sample Date	Sample Time										
J1B893	SOIL	6-17-10	0815	X	X	X	X	X	X	X			
J1B894	SOIL	6-17-10	0825	X	X	X	X	X	X	X			
J1B895	SOIL	6-17-10	1015	X	X	X	X	X	X	X			
J1B896	SOIL	6-17-10	0810	X	X	X	X	X	X	X			
J1B897	SOIL	6-17-10	1020	X	X	X	X	X	X	X			

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J. Sellers	6-17-10 1200	Sterling Howell	6-17-10 1200
Sterling Howell	6-17-10 1555	J.E. Bernhard	6-17-10 1535
J.E. Bernhard	6-21-10 1000	FED EX	
FED EX	6-22-10 09:40	Donna Smith	6-22-10 0940

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SWH DATE 6/21/10

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

0099999917

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 2 of 72 6-17-10

Collector J. Sellers	Company Contact: Don Woolery Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH	Price Code: 8L Data Turnaround: 21 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 128-H-1 C Verification	SAF No.: RC-107	
Ice Chest No.: ERC-96-030	Field Logbook No.: EL 1627-4 COA: ~~R~~128H12000 O 6-17-10	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A100222	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
Type of Container	aG	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	0	1	1	1	0	1				
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081				

Sample No.	Matrix *	Sample Date	Sample Time										
~~J1B898~~ 6-17-10	SOIL												
~~J1B899~~ 6-17-10	SOIL												
~~J1B8B0~~ 6-17-10	SOIL												
J1B8B1	SOIL	6-17-10	1030	X	X	X	X	X	X	X			
~~J1B8B2~~ 6-17-10	SOIL												

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: J. Sellers Joshua Sellers	6-17-10 1200	Received By/Stored In: Sterling Howell	6-17-10 1200
Relinquished By/Removed From: Sterling Howell	6-17-10 1535	Received By/Stored In: J.E. Bernhal	6-17-10 1535
Relinquished By/Removed From: J.E. Bernhal WEA	6-21-10 1000	Received By/Stored In: FED EX	
Relinquished By/Removed From: FED EX	6-22-10 0940	Received By/Stored In: Donna Smith	6-22-10 0940
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SUDH DATE 6/21/10

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

0900660148

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC. Hanford

Project/SAF/SOW/Release #: RC-107

Date: 6-22-10

LvL Batch #: 1006088

Sample Custodian: [illegible]

NOTE. EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7987 7799 4728 7987 7799 4772
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: ERC-01-041 holes in bottom of cooler.
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 3.3°C 3.6	°C	Cooler # ERC-96-030
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify) ERC-01-041
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 _____	

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-107 Project Number: [none] K2105 Project Manager: Joan Kessner	**Reported:** 07/01/2010 21:14

Analytical Report for Polychlorinated Biphenyls by SW846 8082

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1B893	1006088-01	Soil	06/17/2010 08:15	06/22/2010 09:40
J1B894	1006088-02	Soil	06/17/2010 08:25	06/22/2010 09:40
J1B895	1006088-03	Soil	06/17/2010 10:15	06/22/2010 09:40
J1B896	1006088-04	Soil	06/17/2010 08:10	06/22/2010 09:40
J1B897	1006088-05	Soil	06/17/2010 10:20	06/22/2010 09:40
J1B8B1	1006088-06	Soil	06/17/2010 10:30	06/22/2010 09:40

LIONVILLE LABORATORIES
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-107 K2105
LVL #: 1006088

W.O. #: 60049-001-001-0001-00
Received: 06-22-2010

PCBs

Six (6) soil samples were collected on 06-17-2010.

The samples and associated QC samples were extracted 06-23-2010 and analyzed 06-29,30-2010 according to criteria set forth in Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3540C and the analysis procedure was based on SW846 Method 8082. All samples received Copper-Sulfur and Sulfuric Acid cleanups based on SW846 methods 3660A and 3665A,

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 samples that met LvL's sample acceptance policy.
2. All required holding times for extraction and analysis have been met.
3. All obtainable surrogate recoveries were within acceptance criteria.
4. The method blank was below the reporting limits for all target compounds.
5. All blank spike recoveries were within acceptance criteria.
6. All matrix spike recoveries were within acceptance criteria.
7. The samples are reported on a dry weight basis.
8. All initial calibrations associated with this data set were within acceptance criteria.
9. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
10. 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 data package has been authorized by the laboratory manager or a designee as verified by the following signature.

Iain Daniels
LvL Laboratory Manager

7/16/10
Date

r:\group\data\2010\pcb\wc-hanford\1006088jr_s2.doc

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.

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration 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.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
.I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.
P	=	This flag is used for a dual column analysis (i.e. pesticides/PCB/herbicides) when there is greater than 40% difference for detected concentrations between the two GC columns; the lower of the two values is reported on Form 1 and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking 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	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
NPM	=	No pattern match for multi-component target analytes.

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-107 Project Number: [none] Project Manager: Joan Kessner	**Reported:** 07/01/2010 21:14

J1B893

1006088-01 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Polychlorinated Biphenyls by SW846 8082								
Aroclor 1016	14.1 U	14.1	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1221	14.1 U	14.1	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1232	14.1 U	14.1	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1242	14.1 U	14.1	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1248	14.1 U	14.1	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1254	14.1 U	14.1	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1260	14.1 U	14.1	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Surrogate: Decachlorobiphenyl	*86 %*	*43-144*			*L006247*	*06/23/2010*	*06/29/2010*	*8082*
Surrogate: Tetrachloro-meta-xylene	*89 %*	*52-141*			*L006247*	*06/23/2010*	*06/29/2010*	*8082*

264 Welsh Pool Road
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Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/01/2010 21:14

J1B894

1006088-02 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Polychlorinated Biphenyls by SW846 8082								
Aroclor 1016	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1221	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1232	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1242	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1248	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1254	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Aroclor 1260	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/29/2010	8082
Surrogate: Decachlorobiphenyl	*83 %*	*43-144*			*L006247*	*06/23/2010*	*06/29/2010*	*8082*
Surrogate: Tetrachloro-meta-xylene	*82 %*	*52-141*			*L006247*	*06/23/2010*	*06/29/2010*	*8082*

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/01/2010 21:14

J1B895

1006088-03 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Polychlorinated Biphenyls by SW846 8082								
Aroclor 1016	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1221	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1232	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1242	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1248	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1254	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1260	13.0 U	13.0	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Surrogate: Decachlorobiphenyl	*94 %*	*43-144*			*L006247*	*06/23/2010*	*06/30/2010*	*8082*
Surrogate: Tetrachloro-meta-xylene	*90 %*	*52-141*			*L006247*	*06/23/2010*	*06/30/2010*	*8082*

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/01/2010 21:14

J1B896

1006088-04 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Polychlorinated Biphenyls by SW846 8082								
Aroclor 1016	13.6 U	13.6	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1221	13.6 U	13.6	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1232	13.6 U	13.6	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1242	13.6 U	13.6	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1248	13.6 U	13.6	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1254	13.6 U	13.6	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1260	13.6 U	13.6	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Surrogate: Decachlorobiphenyl	*88 %*	*43-144*			*L006247*	*06/23/2010*	*06/30/2010*	*8082*
Surrogate: Tetrachloro-meta-xylene	*89 %*	*52-141*			*L006247*	*06/23/2010*	*06/30/2010*	*8082*

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/01/2010 21:14

J1B897

1006088-05 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Polychlorinated Biphenyls by SW846 8082								
Aroclor 1016	13.8 U	13.8	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1221	13.8 U	13.8	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1232	13.8 U	13.8	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1242	13.8 U	13.8	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1248	13.8 U	13.8	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1254	13.8 U	13.8	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1260	13.8 U	13.8	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Surrogate: Decachlorobiphenyl	*91 %*	*43-144*			*L006247*	*06/23/2010*	*06/30/2010*	*8082*
Surrogate: Tetrachloro-meta-xylene	*96 %*	*52-141*			*L006247*	*06/23/2010*	*06/30/2010*	*8082*

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/01/2010 21:14

J1B8B1

1006088-06 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Polychlorinated Biphenyls by SW846 8082								
Aroclor 1016	14.3 U	14.3	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1221	14.3 U	14.3	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1232	14.3 U	14.3	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1242	14.3 U	14.3	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1248	14.3 U	14.3	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1254	14.3 U	14.3	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Aroclor 1260	14.3 U	14.3	ug/kg dry	1	L006247	06/23/2010	06/30/2010	8082
Surrogate: Decachlorobiphenyl	*90 %*	*43-144*			*L006247*	*06/23/2010*	*06/30/2010*	*8082*
Surrogate: Tetrachloro-meta-xylene	*92 %*	*52-141*			*L006247*	*06/23/2010*	*06/30/2010*	*8082*

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-107 Project Number: [none] Project Manager: Joan Kessner	**Reported:** 07/01/2010 21:14

Polychlorinated Biphenyls by SW846 8082 - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L006247 - SW 3540C									
Blank (L006247-BLK2)			Prepared: 06/23/2010 Analyzed: 06/29/2010						
Aroclor 1016	13.3 U	13.3	ug/kg wet						
Aroclor 1221	13.3 U	13.3	ug/kg wet						
Aroclor 1232	13.3 U	13.3	ug/kg wet						
Aroclor 1242	13.3 U	13.3	ug/kg wet						
Aroclor 1248	13.3 U	13.3	ug/kg wet						
Aroclor 1254	13.3 U	13.3	ug/kg wet						
Aroclor 1260	13.3 U	13.3	ug/kg wet						
Surrogate: Decachlorobiphenyl	*28.6*		*ug/kg wet*	*33.333*		*86*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*30.1*		*ug/kg wet*	*33.337*		*90*	*52-141*		
LCS (L006247-BS2)			Prepared: 06/23/2010 Analyzed: 06/29/2010						
Aroclor 1016	138	13.3	ug/kg wet	166.67		83	50-138		
Aroclor 1260	163	13.3	ug/kg wet	166.67		98	50-148		
Surrogate: Decachlorobiphenyl	*29.5*		*ug/kg wet*	*33.333*		*88*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*31.5*		*ug/kg wet*	*33.337*		*94*	*52-141*		
Matrix Spike (L006247-MS2)		**Source: 1006088-01**	Prepared: 06/23/2010 Analyzed: 06/29/2010						
Aroclor 1016	132	14.0	ug/kg dry	175.86	14.1 U	75	50-138		
Aroclor 1260	160	14.0	ug/kg dry	175.86	14.1 U	91	50-148		
Surrogate: Decachlorobiphenyl	*30.0*		*ug/kg dry*	*35.173*		*85*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*29.1*		*ug/kg dry*	*35.176*		*83*	*52-141*		
Matrix Spike Dup (L006247-MSD2)		**Source: 1006088-01**	Prepared: 06/23/2010 Analyzed: 06/29/2010						
Aroclor 1016	141	14.0	ug/kg dry	175.40	14.1 U	80	50-138	7	40
Aroclor 1260	175	14.0	ug/kg dry	175.40	14.1 U	100	50-148	9	40
Surrogate: Decachlorobiphenyl	*30.0*		*ug/kg dry*	*35.080*		*85*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*29.9*		*ug/kg dry*	*35.084*		*85*	*52-141*		

PREPARATION BENCH SHEET

L006247

Lionville Laboratory

Printed: 6/29/2010 10:35:42AM

Matrix: Solid **Prepared using: GC - SW 3540C** **Surrogate used: 1001165**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
~~1006070-01~~	~~8081A TCL Pesticides~~ VOID	~~06/23/2010 09:42~~	~~0.52~~	~~10~~				~~250~~	~~Bechtel Bettis Inc.~~	~~Added for BatchQC in: L006247~~
1006070-01	8082 PCBs	06/23/2010 09:42	0.52	10				250	Bechtel Bettis Inc.	
1006088-01	8081A TCL Pesticides	06/23/2010 09:42	30.15	10				250	WC-Hanford, Inc.	
1006088-01	8082 PCBs	06/23/2010 09:42	30.15	10				250	WC-Hanford, Inc.	
1006088-02	8081A TCL Pesticides	06/23/2010 09:42	31.4	10				250	WC-Hanford, Inc.	
1006088-02	8082 PCBs	06/23/2010 09:42	31.4	10				250	WC-Hanford, Inc.	
1006088-03	8081A TCL Pesticides	06/23/2010 09:42	31.34	10				250	WC-Hanford, Inc.	
1006088-03	8082 PCBs	06/23/2010 09:42	31.34	10				250	WC-Hanford, Inc.	
1006088-04	8081A TCL Pesticides	06/23/2010 09:42	30	10				250	WC-Hanford, Inc.	
1006088-04	8082 PCBs	06/23/2010 09:42	30	10				250	WC-Hanford, Inc.	
1006088-05	8081A TCL Pesticides	06/23/2010 09:42	30.43	10				250	WC-Hanford, Inc.	
1006088-05	8082 PCBs	06/23/2010 09:42	30.43	10				250	WC-Hanford, Inc.	
1006088-06	8081A TCL Pesticides	06/23/2010 09:42	30.44	10				250	WC-Hanford, Inc.	
1006088-06	8082 PCBs	06/23/2010 09:42	30.44	10				250	WC-Hanford, Inc.	
L006247-BLK1	QC	06/23/2010 09:42	30	10				250		Pest
L006247-BLK2	QC	06/23/2010 09:42	30	10				250		PCB
L006247-BS1	QC	06/23/2010 09:42	30	10	1001086		250	250		Pest
L006247-BS2	QC	06/23/2010 09:42	30	10	1000526		250	250		PCB
L006247-MS1	QC	06/23/2010 09:42	30.11	10	1001086	1006088-01	250	250		Pest
L006247-MS2	QC	06/23/2010 09:42	30.33	10	1000526	1006088-01	250	250		PCB

Cu cleanup (B124021) 06.29.10 11:40 SZ

Benjamin Harris 6/29/10 11:07 — Extracts Relinquished By — Date

S Zak 06/29/10 11:20 — Extracts Received By — Date

PREPARATION BENCH SHEET

L006247

Lionville Laboratory

Printed: 6/29/2010 10:35:42AM

Matrix: Solid **Prepared using: GC - SW 3540C** **Surrogate used: 1001165**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L006247-MS3	QC	06/23/2010 09:42	0.55	10	1000526	1006070-01	250	250		PCB
L006247-MSD1	QC	06/23/2010 09:42	30.28	10	1001086	1006088-01	250	250		Pest
L006247-MSD2	QC	06/23/2010 09:42	30.41	10	1000526	1006088-01	250	250		PCB
L006247-MSD3	QC	06/23/2010 09:42	0.54	10	1000526	1006070-01	250	250		PCB

Benjamin L. Harris 6/29/10 11:07
Extracts Relinquished By Date

S Lah 06/29/10 11:20
Extracts Received By Date

See CRC

Lionville Laboratory Use Only: 1006088

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: W.C-Hanford SAF# RC-107

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: Arlette Johnson

QC: SW Del: STD TAT: 21 days

Date Rec'd: 6-22-10 Date Due: 7-13-10

	A	B	C	D	E
Refrigerator #	2	2	2	2	2
#/Type Container (Liquid / Solid)	1aql	1aql	1aql	1aql	1aq
Volume	120	120	250	120	250
Preservatives	—	—	—	—	—

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA (625)	Pest/PCB (608)	Herb	PCBs	TPH-D (DRO)	PAHs (PAH)	Metal + Hg (MetC)	CN	Cr+6 (CR6)
01	J1B893			S	6-17-10	0815		X	X		X	X	X	X		X
02	J1B894					0825		X	X		X	X	X	X		X
03	J1B895					1015		X	X		X	X	X	X		X
04	J1B896					0810		X	X		X	X	X	X		X
05	J1B897					1030		X	X		X	X	X	X		X
06	J1B8B1					1030		X	X		X	X	X	X		X

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

Special Instructions: Run matrix QC

MetC = HSL + B, Mo, Si
NOTL

Special Instructions:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6-22-10	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

9999999013

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 1 of ~~2~~ 2 6-17-10

Collector J. Sellers	Company Contact Don Woolery / Telephone No. 509-431-0448	Project Coordinator KESSNER, JH	Price Code 8L / Data Turnaround 21 Days
Project Designation 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 128-H-1 C Verification	SAF No. RC-107	
Ice Chest No. ERC-96-030	Field Logbook No. EL 1627-4 / COA ~~R~~128H12000 O 6-17-10	Method of Shipment Fed Ex	
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A100222	Bill of Lading/Air Bill No. See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
Type of Container	aG	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	0	1	1	1	0	1				
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081				
Sample No. / Matrix * / Sample Date / Sample Time											
J1B893 / SOIL / 6-17-10 / 0815	X	X	X	X	X	X	X				
J1B894 / SOIL / 6-17-10 / 0825	X	X	X	X	X	X	X				
J1B895 / SOIL / 6-17-10 / 1015	X	X	X	X	X	X	X				
J1B896 / SOIL / 6-17-10 / 0810	X	X	X	X	X	X	X				
J1B897 / SOIL / 6-17-10 / 1020	X	X	X	X	X	X	X				

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From J. Sellers	6-17-10 1200	Received By/Stored In Sterling Howell	1200 6-17-10
Relinquished By/Removed From Sterling Howell	1555 6-17-10	Received By/Stored In J. E. Bernhard	1535 6-17-10
Relinquished By/Removed From J. E. Bernhard	1000 6-21-10	Received By/Stored In FED EX	
Relinquished By/Removed From FED EX	6-22-10 09:40	Received By/Stored In Donna Nicole Smith	6-22-10 0940
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SUDH DATE 6/21/10

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

P1000099

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 2 of 2 6-17-10

Collector J. Sellers	Company Contact Don Woolery	Telephone No. 509-431-0448	Project Coordinator KESSNER, JH
Price Code 8L	Data Turnaround 21 Days		
Project Designation 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 128-H-1 C Verification	SAF No. RC-107	
Ice Chest No. ERC-96-030	Field Logbook No. EL 1627-4	COA ~~R~~128H12000 0 6-17-10	Method of Shipment Fed Ex
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A100222		Bill of Lading/Air Bill No. See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container	aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)	1	0	1	1	1	0	1			
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time										
~~J1B898~~ 6-17-10	SOIL												
~~J1B899~~ 6-17-10	SOIL												
~~J1B8B0~~ 6-17-10	SOIL												
J1B8B1	SOIL	6-17-10	1030	X	X	X	X	X	X	X			
~~J1B8B2~~ 6-17-10	SOIL												

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: J. Sellers	Date/Time: 6-17-10 1200	Received By/Stored In: Sterling Howell
Date/Time: 6-17-10 1200		
Relinquished By/Removed From: Sterling Howell	Date/Time: 6-17-10 1535	Received By/Stored In: J. E. Bernal
Date/Time: 6-17-10 1535		
Relinquished By/Removed From: J. E. Bernal	Date/Time: 6-21-10 1000	Received By/Stored In: FED EX
Date/Time:		
Relinquished By/Removed From: FED EX	Date/Time: 6-22-10/0940	Received By/Stored In: Donna Smith
Date/Time: 6-22-10/0940		
Relinquished By/Removed From	Date/Time	Received By/Stored In
Date/Time		
Relinquished By/Removed From	Date/Time	Received By/Stored In
Date/Time		

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SUDH DATE 6/21/10

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

2009000015

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC. Hanford

Project/SAF/SOW/Release #: RC-107

Date: 6-22-10

LvL Batch #: 1006088

Sample Custodian: [illegible]

NOTE. EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7987 7799 4728 7987 7799 4772
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:* ERC-01-041 holes in bottom of cooler.
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 3.3 °C 3.6	°C	Cooler # ERC-96-030
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify) ERC-01-041
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 _____

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-107 Project Number: [none] K2105 Project Manager: Joan Kessner	**Reported:** 07/01/2010 08:02

Analytical Report for Polynuclear Aromatic Compounds by SW846 8310

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1B893	1006088-01	Soil	06/17/2010 08:15	06/22/2010 09:40
J1B894	1006088-02	Soil	06/17/2010 08:25	06/22/2010 09:40
J1B895	1006088-03	Soil	06/17/2010 10:15	06/22/2010 09:40
J1B896	1006088-04	Soil	06/17/2010 08:10	06/22/2010 09:40
J1B897	1006088-05	Soil	06/17/2010 10:20	06/22/2010 09:40
J1B8B1	1006088-06	Soil	06/17/2010 10:30	06/22/2010 09:40

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

Case Narrative

Client: WC-HANFORD RC-107 K2105
LVL #: 1006088

W.O. #: 60049-001-001-0001-00
Date Received: 06-22-2010

POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)

Six (6) soil samples were collected on 06-17-2010.

The samples and associated QC samples were extracted 06-23-2010 and analyzed 06-29-2010 according to criteria set forth in Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3540C and the analysis procedure was based on SW846 Method 8310.

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 samples that met LvL's sample acceptance policy.
2. All required holding times for extraction and analysis have been met.
3. All obtainable surrogate recoveries were within acceptance criteria.
4. The method blank was below the reporting limits for all target compounds.
5. All blank spike recoveries were within acceptance criteria.
6. All matrix spike recoveries were within acceptance criteria.
7. The initial calibrations associated with this data set were within acceptance criteria.
8. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
9. The samples were reported on a dry weight basis.
10. 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
LvL Laboratory Manager

7/16/10
Date

r:\group\data\2010\pah 8310\wc-hanford\1006088jr.doc

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.

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration 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.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
.I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.
P	=	This flag is used for a dual column analysis (i.e. pesticides/PCB/herbicides) when there is greater than 40% difference for detected concentrations between the two GC columns; the lower of the two values is reported on Form 1 and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking 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	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
NPM	=	No pattern match for multi-component target analytes.

264 Welsh Pool Road
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Phone: 610-280-3000
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-107 Project Number: [none] Project Manager: Joan Kessner	**Reported:** 07/01/2010 08:02

J1B893

1006088-01 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Polynuclear Aromatic Compounds by SW846 8310								
Naphthalene	3.53 U	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthylene	3.53 U	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthene	**12.5**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluorene	3.53 U	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Phenanthrene	**26.5**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Anthracene	**1.59 J**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluoranthene	**11.0**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Indeno[1,2,3-cd]pyrene	**9.19**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Pyrene	**35.5**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benz[a]anthracene	**13.4**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Chrysene	**19.4**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[b] fluoranthene	**4.24**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[k] fluoranthene	**6.89**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[a] pyrene	**11.1**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Dibenz[a,h]anthracene	3.53 U	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[g,h,i] perylene	**90.1**	3.53	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Surrogate: Triphenylene	*94 %*	*68-129*			*L006244*	*06/23/2010*	*06/29/2010*	*8310*

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/01/2010 08:02

J1B894

1006088-02 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Polynuclear Aromatic Compounds by SW846 8310								
Naphthalene	3.30 U	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthylene	3.30 U	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthene	3.30 U	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluorene	**4.30**	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Phenanthrene	**9.26**	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Anthracene	3.30 U	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluoranthene	**14.7**	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Indeno[1,2,3-cd]pyrene	**7.44**	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Pyrene	**6.12**	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benz[a]anthracene	**3.14** J	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Chrysene	**22.7**	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[b] fluoranthene	**3.47**	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[k] fluoranthene	**1.65** J	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[a] pyrene	**2.48** J	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Dibenz[a,h]anthracene	3.30 U	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[g,h,i] perylene	**1.82** J	3.30	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Surrogate: Triphenylene	*96 %*	*68-129*			*L006244*	*06/23/2010*	*06/29/2010*	*8310*

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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/01/2010 08:02

J1B895

1006088-03 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Polynuclear Aromatic Compounds by SW846 8310								
Naphthalene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthylene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluorene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Phenanthrene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Anthracene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluoranthene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Indeno[1,2,3-cd]pyrene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Pyrene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benz[a]anthracene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Chrysene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[b] fluoranthene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[k] fluoranthene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[a] pyrene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Dibenz[a,h]anthracene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[g,h,i] perylene	3.34 U	3.34	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Surrogate: Triphenylene	*98 %*	*68-129*			*L006244*	*06/23/2010*	*06/29/2010*	*8310*

264 Welsh Pool Road
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WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/01/2010 08:02

J1B896

1006088-04 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Polynuclear Aromatic Compounds by SW846 8310								
Naphthalene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthylene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluorene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Phenanthrene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Anthracene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluoranthene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Indeno[1,2,3-cd]pyrene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Pyrene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benz[a]anthracene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Chrysene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[b] fluoranthene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[k] fluoranthene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[a] pyrene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Dibenz[a,h]anthracene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[g,h,i] perylene	3.37 U	3.37	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Surrogate: Triphenylene	*98 %*	*68-129*			*L006244*	*06/23/2010*	*06/29/2010*	*8310*

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Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/01/2010 08:02

J1B897

1006088-05 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Polynuclear Aromatic Compounds by SW846 8310								
Naphthalene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthylene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluorene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Phenanthrene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Anthracene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluoranthene	**2.19** J	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Indeno[1,2,3-cd]pyrene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Pyrene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benz[a]anthracene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Chrysene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[b] fluoranthene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[k] fluoranthene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[a] pyrene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Dibenz[a,h]anthracene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[g,h,i] perylene	3.36 U	3.36	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Surrogate: Triphenylene	*98 %*	*68-129*			*L006244*	*06/23/2010*	*06/29/2010*	*8310*

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	07/01/2010 08:02

J1B8B1

1006088-06 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
		Lionville Laboratory						
Polynuclear Aromatic Compounds by SW846 8310								
Naphthalene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthylene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Acenaphthene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluorene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Phenanthrene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Anthracene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Fluoranthene	**11.0**	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Indeno[1,2,3-cd]pyrene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Pyrene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benz[a]anthracene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Chrysene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[b] fluoranthene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[k] fluoranthene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[a] pyrene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Dibenz[a,h]anthracene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Benzo[g,h,i] perylene	3.59 U	3.59	ug/kg dry	1	L006244	06/23/2010	06/29/2010	8310
Surrogate: Triphenylene	*96 %*	*68-129*			*L006244*	*06/23/2010*	*06/29/2010*	*8310*

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-107 Project Number: [none] Project Manager: Joan Kessner	**Reported:** 07/01/2010 08:02

Polynuclear Aromatic Compounds by SW846 8310 - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L006244 - SW 3540C									
Blank (L006244-BLK1)			Prepared: 06/23/2010 Analyzed: 06/29/2010						
Naphthalene	3.33 U	3.33	ug/kg wet						
Acenaphthylene	3.33 U	3.33	ug/kg wet						
Acenaphthene	3.33 U	3.33	ug/kg wet						
Fluorene	3.33 U	3.33	ug/kg wet						
Phenanthrene	3.33 U	3.33	ug/kg wet						
Anthracene	3.33 U	3.33	ug/kg wet						
Fluoranthene	3.33 U	3.33	ug/kg wet						
Indeno[1,2,3-cd]pyrene	3.33 U	3.33	ug/kg wet						
Pyrene	3.33 U	3.33	ug/kg wet						
Benz[a]anthracene	3.33 U	3.33	ug/kg wet						
Chrysene	3.33 U	3.33	ug/kg wet						
Benzo[b] fluoranthene	3.33 U	3.33	ug/kg wet						
Benzo[k] fluoranthene	3.33 U	3.33	ug/kg wet						
Benzo[a] pyrene	3.33 U	3.33	ug/kg wet						
Dibenz[a,h]anthracene	3.33 U	3.33	ug/kg wet						
Benzo[g,h,i] perylene	3.33 U	3.33	ug/kg wet						
Surrogate: Triphenylene	*159*		*ug/kg wet*	*166.67*		*96*	*68-129*		
LCS (L006244-BS1)			Prepared: 06/23/2010 Analyzed: 06/29/2010						
Naphthalene	156	3.33	ug/kg wet	166.67		93	0-127		
Acenaphthylene	165	3.33	ug/kg wet	166.67		99	50-140		
Acenaphthene	158	3.33	ug/kg wet	166.67		94	17-139		
Fluorene	173	3.33	ug/kg wet	166.67		104	28-145		
Phenanthrene	165	3.33	ug/kg wet	166.67		99	30-152		
Anthracene	150	3.33	ug/kg wet	166.67		90	19-171		
Fluoranthene	178	3.33	ug/kg wet	166.67		107	34-159		
Indeno[1,2,3-cd]pyrene	167	3.33	ug/kg wet	166.67		100	31-156		
Pyrene	174	3.33	ug/kg wet	166.67		104	33-152		
Benz[a]anthracene	172	3.33	ug/kg wet	166.67		103	32-157		
Chrysene	180	3.33	ug/kg wet	166.67		108	31-159		
Benzo[b] fluoranthene	172	3.33	ug/kg wet	166.67		103	33-164		
Benzo[k] fluoranthene	172	3.33	ug/kg wet	166.67		103	28-161		
Benzo[a] pyrene	122	3.33	ug/kg wet	166.67		73	29-149		
Dibenz[a,h]anthracene	172	3.33	ug/kg wet	166.67		103	27-153		
Benzo[g,h,i] perylene	149	3.33	ug/kg wet	166.67		89	32-157		
Surrogate: Triphenylene	*166*		*ug/kg wet*	*166.67*		*99*	*68-129*		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-107 Project Number: [none] Project Manager: Joan Kessner	**Reported:** 07/01/2010 08:02

Polynuclear Aromatic Compounds by SW846 8310 - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L006244 - SW 3540C									
Matrix Spike (L006244-MS1)		**Source: 1006088-01**	Prepared: 06/23/2010 Analyzed: 06/29/2010						
Naphthalene	140	3.41	ug/kg dry	170.74	3.53 U	82	0-127		
Acenaphthylene	184	3.41	ug/kg dry	170.74	3.53 U	108	50-140		
Acenaphthene	171	3.41	ug/kg dry	170.74	12.5	93	17-139		
Fluorene	150	3.41	ug/kg dry	170.74	3.53 U	88	28-145		
Phenanthrene	181	3.41	ug/kg dry	170.74	26.5	90	30-152		
Anthracene	144	3.41	ug/kg dry	170.74	1.59	84	19-171		
Fluoranthene	201	3.41	ug/kg dry	170.74	11.0	111	34-159		
Indeno[1,2,3-cd]pyrene	157	3.41	ug/kg dry	170.74	9.19	87	31-156		
Pyrene	208	3.41	ug/kg dry	170.74	35.5	101	33-152		
Benz[a]anthracene	180	3.41	ug/kg dry	170.74	13.4	98	32-157		
Chrysene	238	3.41	ug/kg dry	170.74	19.4	128	31-159		
Benzo[b] fluoranthene	202	3.41	ug/kg dry	170.74	4.24	116	33-164		
Benzo[k] fluoranthene	171	3.41	ug/kg dry	170.74	6.89	96	28-161		
Benzo[a] pyrene	130	3.41	ug/kg dry	170.74	11.1	70	29-149		
Dibenz[a,h]anthracene	167	3.41	ug/kg dry	170.74	3.53 U	98	27-153		
Benzo[g,h,i] perylene	152	3.41	ug/kg dry	170.74	90.1	36	32-157		
Surrogate: Triphenylene	*168*		*ug/kg dry*	*170.74*		*98*	*68-129*		
Matrix Spike Dup (L006244-MSD1)		**Source: 1006088-01**	Prepared: 06/23/2010 Analyzed: 06/29/2010						
Naphthalene	167	3.49	ug/kg dry	174.83	3.53 U	96	0-127	16	40
Acenaphthylene	179	3.49	ug/kg dry	174.83	3.53 U	102	50-140	5	40
Acenaphthene	195	3.49	ug/kg dry	174.83	12.5	104	17-139	11	40
Fluorene	166	3.49	ug/kg dry	174.83	3.53 U	95	28-145	7	40
Phenanthrene	184	3.49	ug/kg dry	174.83	26.5	90	30-152	0.04	40
Anthracene	146	3.49	ug/kg dry	174.83	1.59	83	19-171	1	40
Fluoranthene	202	3.49	ug/kg dry	174.83	11.0	109	34-159	2	40
Indeno[1,2,3-cd]pyrene	149	3.49	ug/kg dry	174.83	9.19	80	31-156	8	40
Pyrene	198	3.49	ug/kg dry	174.83	35.5	93	33-152	9	40
Benz[a]anthracene	181	3.49	ug/kg dry	174.83	13.4	96	32-157	2	40
Chrysene	208	3.49	ug/kg dry	174.83	19.4	108	31-159	17	40
Benzo[b] fluoranthene	192	3.49	ug/kg dry	174.83	4.24	108	33-164	7	40
Benzo[k] fluoranthene	173	3.49	ug/kg dry	174.83	6.89	95	28-161	0.7	40
Benzo[a] pyrene	132	3.49	ug/kg dry	174.83	11.1	69	29-149	0.8	40
Dibenz[a,h]anthracene	164	3.49	ug/kg dry	174.83	3.53 U	94	27-153	4	40
Benzo[g,h,i] perylene	153	3.49	ug/kg dry	174.83	90.1	36	32-157	1	40
Surrogate: Triphenylene	*169*		*ug/kg dry*	*174.83*		*97*	*68-129*		

PREPARATION BENCH SHEET

L006244

Lionville Laboratory

Printed: 6/28/2010 1:47:39PM

Matrix: Solid **Prepared using: GC - SW 3540C** **Surrogate used: 1001119**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1006088-01	8310 PAH	06/23/2010 08:53	30.19	5				500	WC-Hanford, Inc.	
1006088-02	8310 PAH	06/23/2010 08:53	30.88	5				500	WC-Hanford, Inc.	
1006088-03	8310 PAH	06/23/2010 08:53	30.43	5				500	WC-Hanford, Inc.	
1006088-04	8310 PAH	06/23/2010 08:53	30.24	5				500	WC-Hanford, Inc.	
1006088-05	8310 PAH	06/23/2010 08:53	31.34	5				500	WC-Hanford, Inc.	
1006088-06	8310 PAH	06/23/2010 08:53	30.29	5				500	WC-Hanford, Inc.	
L006244-BLK1	QC	06/23/2010 08:53	30	5				500		
L006244-BS1	QC	06/23/2010 08:53	30	5	1000491		1000	500		
L006244-MS1	QC	06/23/2010 08:53	31.24	5	1000491	1006088-01	1000	500		
L006244-MSD1	QC	06/23/2010 08:53	30.51	5	1000491	1006088-01	1000	500		

Benjamin Harris 6/28/10 1:50
Extracts Relinquished By Date

BYak 06.28.10 14:00
Extracts Received By Date

Lionville Laboratory Use Only

1006088

Custody Transfer Record/Lab Work Request

Page 1 of 1

See SRC

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: W.C. Hanford SAF# RC-107

Est. Final Proj. Sampling Date:

Project#:

Project Contact/Phone#:

Lionville Laboratory Project Manager: Arlette Johnson

QC: SW Del: STD TAT: 21 days

Date Rec'd: 6-22-10 Date Due: 7-13-10

		A	B		C	D		E							
Refrigerator #		2	2		2	2		2							
#/Type Container	Liquid	1aql	1aql		1aql	1aql		1aq							
	Solid														
Volume		120	120		250	120		250							
Preservatives		—	—		—	—		—							
ANALYSES REQUESTED →		ORGANIC						INORG							
		VOA	BNA	Pest/PCB	Herb	PCBs	TPH-D	PAHs 8310	Metal + Hg	CN	Cr+6				
Lionville Laboratory Use Only			625	608		PCB	DRO	PAH	Met(1)		CR6				

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	625	608		PCB	DRO	PAH	Met(1)		CR6				
01	J1B893			S	6-17-10	0815	X	X		X	X	X	X		X				
02	J1B894					0825	X	X		X	X	X	X		X				
03	J1B895					1015	X	X		X	X	X	X		X				
04	J1B896					0810	X	X		X	X	X	X		X				
05	J1B897					1030	X	X		X	X	X	X		X				
06	J1B8B1					1030	X	X		X	X	X	X		X				

Special Instructions: Run matrix QC

Met(1) = HSL + B, mo, Si
NOTL

Special Instructions:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6-22-10	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

000000813

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 1 of ~~2~~ 2 6-17-10

Collector J. Sellers	Company Contact Don Woolery	Telephone No. 509-431-0448	Project Coordinator KESSNER, JH	Price Code 8L	Data Turnaround 21 Days
Project Designation 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 128-H-1 C Verification		SAF No. RC-107		
Ice Chest No. ERC-96-030	Field Logbook No. EL 1627-4	COA ~~R~~128H12000 0 ~~R~~ 6-17-10	Method of Shipment Fed Ex		
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A100222		Bill of Lading/Air Bill No. See OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container	aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)	1	0	1	1	1	0	1			
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time										
J1B893	SOIL	6-17-10	0815	X	X	X	X	X	X	X			
J1B894	SOIL	6-17-10	0825	X	X	X	X	X	X	X			
J1B895	SOIL	6-17-10	1015	X	X	X	X	X	X	X			
J1B896	SOIL	6-17-10	0810	X	X	X	X	X	X	X			
J1B897	SOIL	6-17-10	1020	X	X	X	X	X	X	X			

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J. Sellers	6-17-10 1200	Sterling Howell	6-17-10 1200
Sterling Howell	6-17-10 1535	J. E. Bernhard	6-17-10 1535
J. E. Bernhard	6-21-10 1000	FED EX	
FED EX	6-22-10 09:40	Donna Smith	6-22-10 09:40

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SWH DATE 6/21/10

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 2 of ~~2~~ 6-17-10

Collector J. Sellers	Company Contact Don Woolery	Telephone No. 509-431-0448	Project Coordinator KESSNER, JH
Price Code 8L	Data Turnaround 21 Days		
Project Designation 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 128-H-1 C Verification		SAF No. RC-107
Ice Chest No. ERC-96-030	Field Logbook No. EL 1627-4	COA ~~R~~128H12000	Method of Shipment Fed Ex
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A100222	O 6-17-10	Bill of Lading/Air Bill No. See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container	aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)	1	0	1	1	1	0	1			
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time										
~~J1B898~~ 6-17-10	SOIL												
~~J1B899~~ 6-17-10	SOIL												
~~J1B8B0~~ 6-17-10	SOIL												
J1B8B1	SOIL	6-17-10	1030	X	X	X	X	X	X	X			
~~J1B8B2~~ 6-17-10	SOIL												

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From J. Sellers	6-17-10 1200	Received By/Stored In Sterling Howell	6-17-10 1200
Relinquished By/Removed From Sterling Howell	6-17-10 1535	Received By/Stored In J.E. Bernal	6-17-10 1535
Relinquished By/Removed From J.E. Bernal	6-21-10 1000	Received By/Stored In FED EX	
Relinquished By/Removed From FED EX	6-22-10/0940	Received By/Stored In Donna Smith	6-22-10/0940
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SVDH DATE 6/21/10

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

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC. Hanford

Project/SAF/SOW/Release #: RC-107

Date: 6-22-10

LvL Batch #: 1006088

Sample Custodian: [illegible]

NOTE. EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7987 7799 4728 7987 7799 4772
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: ERC-01-041 holes in bottom of cooler.
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 3.3 3.6	°C	Cooler # ERC-96-030
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify) ERC-01-041
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 _____	

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-107 Project Number: [none] K2105 Project Manager: Joan Kessner	**Reported:** 06/30/2010 22:49

Analytical Report for Extractable Petroleum Hydrocarbons by SW846 8015

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1B893	1006088-01	Soil	06/17/2010 08:15	06/22/2010 09:40
J1B894	1006088-02	Soil	06/17/2010 08:25	06/22/2010 09:40
J1B895	1006088-03	Soil	06/17/2010 10:15	06/22/2010 09:40
J1B896	1006088-04	Soil	06/17/2010 08:10	06/22/2010 09:40
J1B897	1006088-05	Soil	06/17/2010 10:20	06/22/2010 09:40
J1B8B1	1006088-06	Soil	06/17/2010 10:30	06/22/2010 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-107 K2105
LVL #: 1006088

W.O. #: 60049-001-001-0001-00
Date Received: 06-22-2010

DIESEL RANGE ORGANICS

Six (6) soil samples were collected on 06-17-2010.

The samples and associated QC samples were extracted 06-23-2010 and analyzed 06-29,30-2010 according to criteria set forth in Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3540C and the analysis procedure was based on SW846 Method 8015B for Diesel Range Organics.

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 samples that met LvL's sample acceptance policy.
2. All required holding times for extraction and analysis have been met.
3. All obtainable surrogate recoveries were within acceptance criteria.
4. The method blank was below the reporting limits for all target compounds.
5. All blank spike recoveries were within acceptance criteria.
6. All matrix spike recoveries were within acceptance criteria.
7. All initial calibrations associated with this data set were within acceptance criteria.
8. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
9. The samples were reported on a dry weight basis.
10. 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 data package has been authorized by the laboratory manager or a designee as verified by the following signature.

Iain Daniels
LvL Laboratory Manager

7/16/10
Date

r:\group\data\2010\dro\wc-hanford\1006088jr_s2dry.doc

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

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration 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.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
. I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.
P	=	This flag is used for a dual column analysis (i.e. pesticides/PCB/herbicides) when there is greater than 40% difference for detected concentrations between the two GC columns; the lower of the two values is reported on Form 1 and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking 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	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
NPM	=	No pattern match for multi-component target analytes.

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-107 Project Number: [none] Project Manager: Joan Kessner	**Reported:** 06/30/2010 22:49

J1B893

1006088-01 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Extractable Petroleum Hydrocarbons by SW846 8015								
Diesel Range Organics	**9300**	3410	ug/kg dry	1	L006245	06/23/2010	06/29/2010	8015M
Motor Oil	**36400**	10200	ug/kg dry	1	L006245	06/23/2010	06/29/2010	8015M
Surrogate: p-Terphenyl	*74 %*	*39-129*			*L006245*	*06/23/2010*	*06/29/2010*	*8015M*

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	06/30/2010 22:49

J1B894

1006088-02 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Extractable Petroleum Hydrocarbons by SW846 8015								
Diesel Range Organics	**8630**	3390	ug/kg dry	1	L006245	06/23/2010	06/30/2010	8015M
Motor Oil	**29500**	10200	ug/kg dry	1	L006245	06/23/2010	06/30/2010	8015M
Surrogate: p-Terphenyl	*97 %*	*39-129*			*L006245*	*06/23/2010*	*06/30/2010*	*8015M*

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	06/30/2010 22:49

J1B895

1006088-03 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Extractable Petroleum Hydrocarbons by SW846 8015								
Diesel Range Organics	3390 U	3390	ug/kg dry	1	L006245	06/23/2010	06/30/2010	8015M
Motor Oil	10200 U	10200	ug/kg dry	1	L006245	06/23/2010	06/30/2010	8015M
Surrogate: p-Terphenyl	*99 %*	*39-129*			*L006245*	*06/23/2010*	*06/30/2010*	*8015M*

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-107 Project Number: [none] Project Manager: Joan Kessner	**Reported:** 06/30/2010 22:49

J1B896

1006088-04 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Extractable Petroleum Hydrocarbons by SW846 8015								
Diesel Range Organics	3370 U	3370	ug/kg dry	1	L006245	06/23/2010	06/30/2010	8015M
Motor Oil	10100 U	10100	ug/kg dry	1	L006245	06/23/2010	06/30/2010	8015M
Surrogate: p-Terphenyl	*100 %*	*39-129*			*L006245*	*06/23/2010*	*06/30/2010*	*8015M*

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	06/30/2010 22:49

J1B897

1006088-05 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Extractable Petroleum Hydrocarbons by SW846 8015								
Diesel Range Organics	3500 U	3500	ug/kg dry	1	L006245	06/23/2010	06/30/2010	8015M
Motor Oil	**13400**	10500	ug/kg dry	1	L006245	06/23/2010	06/30/2010	8015M
Surrogate: p-Terphenyl	*102 %*	*39-129*			*L006245*	*06/23/2010*	*06/30/2010*	*8015M*

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

WC-Hanford, Inc.	Project: RC-107	
2620 Fermi Avenue	Project Number: [none]	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	06/30/2010 22:49

J1B8B1

1006088-06 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Extractable Petroleum Hydrocarbons by SW846 8015								
Diesel Range Organics	3570 U	3570	ug/kg dry	1	L006245	06/23/2010	06/30/2010	8015M
Motor Oil	**4060** J	10700	ug/kg dry	1	L006245	06/23/2010	06/30/2010	8015M
Surrogate: p-Terphenyl	*93 %*	*39-129*			*L006245*	*06/23/2010*	*06/30/2010*	*8015M*

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-107 Project Number: [none] Project Manager: Joan Kessner	**Reported:** 06/30/2010 22:49

Extractable Petroleum Hydrocarbons by SW846 8015 - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L006245 - SW 3540C										
Blank (L006245-BLK1)				Prepared: 06/23/2010 Analyzed: 06/29/2010						
Diesel Range Organics	3330	U	3330	ug/kg wet						
Motor Oil	10000	U	10000	ug/kg wet						
Surrogate: p-Terphenyl	*5810*			*ug/kg wet*	*6666.7*		*87*	*39-129*		
LCS (L006245-BS1)				Prepared: 06/23/2010 Analyzed: 06/29/2010						
Diesel Range Organics	59600		3330	ug/kg wet	66667		89	42-133		
Surrogate: p-Terphenyl	*5760*			*ug/kg wet*	*6666.7*		*86*	*39-129*		
Matrix Spike (L006245-MS1)		**Source: 1006088-01**		Prepared: 06/23/2010 Analyzed: 06/29/2010						
Diesel Range Organics	72600		3470	ug/kg dry	69340	9300	91	42-133		
Surrogate: p-Terphenyl	*6660*			*ug/kg dry*	*6934.0*		*96*	*39-129*		
Matrix Spike Dup (L006245-MSD1)		**Source: 1006088-01**		Prepared: 06/23/2010 Analyzed: 06/29/2010						
Diesel Range Organics	69700		3510	ug/kg dry	70299	9300	86	42-133	6	40
Surrogate: p-Terphenyl	*6570*			*ug/kg dry*	*7029.9*		*93*	*39-129*		

PREPARATION BENCH SHEET

L006245

Lionville Laboratory

Printed: 6/29/2010 10:37:07AM

Matrix: Solid **Prepared using: GC - SW 3540C** **Surrogate used: 1001121**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1006088-01	8015M DRO	06/23/2010 08:55	31.3	1				1000	WC-Hanford, Inc.	
1006088-02	8015M DRO	06/23/2010 08:55	30.08	1				1000	WC-Hanford, Inc.	
1006088-03	8015M DRO	06/23/2010 08:55	30.04	1				1000	WC-Hanford, Inc.	
1006088-04	8015M DRO	06/23/2010 08:55	30.26	1				1000	WC-Hanford, Inc.	
1006088-05	8015M DRO	06/23/2010 08:55	30.18	1				1000	WC-Hanford, Inc.	
1006088-06	8015M DRO	06/23/2010 08:55	30.48	1				1000	WC-Hanford, Inc.	
L006245-BLK1	QC	06/23/2010 08:55	30	1				1000		
L006245-BS1	QC	06/23/2010 08:55	30	1	1000688		1000	1000		
L006245-MS1	QC	06/23/2010 08:55	30.77	1	1000688	1006088-01	1000	1000		
L006245-MSD1	QC	06/23/2010 08:55	30.35	1	1000688	1006088-01	1000	1000		

Benjamin Harris 6/29/10 11:07 — Extracts Relinquished By — Date

S Lock 06/29/10 11:15 — Extracts Received By — Date

Lionville Laboratory Use Only

1006088

Custody Transfer Record/Lab Work Request

Page 1 of 1

800 SRC

LVLI LIONVILLE LABORATORY INC.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client W.C-Hanford SAF# RC-107

Est. Final Proj. Sampling Date

Project#

Project Contact/Phone#

Lionville Laboratory Project Manager Arlette Johnson

QC SW Del STD TAT 21 days

Date Rec'd 6-22-10 Date Due 7-13-10

		A	B		C	D		E							
Refrigerator #		2	2		2	2		2							
#/Type Container	Liquid	1aq	1aq		1aq	1aq		1aq							
#/Type Container	Solid														
Volume		120	120		250	120		250							
Preservatives		—	—		—	—		—							

ANALYSES REQUESTED →

	ORGANIC							INORG							
	VOA	BNA	Pest/PCB	Herb	PCBs	TPH-D	PAHs 8310	Metal + Hg	CN	Cr+6					
Lionville Laboratory Use Only		625	608		PCB	DRO	PAH	Metal		CR6					

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		625	608		PCB	DRO	PAH	Metal		CR6					
01	J1B893			S	6-17-10	0815		X	X		X	X	X	X		X					
02	J1B894					0825		X	X		X	X	X	X		X					
03	J1B895					1015		X	X		X	X	X	X		X					
04	J1B896					0810		X	X		X	X	X	X		X					
05	J1B897					1030		X	X		X	X	X	X		X					
06	J1B8B1					1030		X	X		X	X	X	X		X					

Special Instructions: Run matrix QC

Met① = HSL + B, Mo, Si
NOTL

Special Instructions:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6-23-10	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

2000000612

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 1 of ~~3~~ 2 6-17-10

Collector J. Sellers	Company Contact: Don Woolery Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH	Price Code: 8L Data Turnaround: 21 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 128-H-1 C Verification	SAF No.: RC-107	
Ice Chest No.: ERC-96-030	Field Logbook No.: EL 1627-4 COA: ~~R~~128H12000 0 6-17-10	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A100222	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container	aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)	1	0	1	1	1	0	1			
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081			

Sample No.	Matrix *	Sample Date	Sample Time										
J1B893	SOIL	6-17-10	0815	X	X	X	X	X	X	X			
J1B894	SOIL	6-17-10	0825	X	X	X	X	X	X	X			
J1B895	SOIL	6-17-10	1015	X	X	X	X	X	X	X			
J1B896	SOIL	6-17-10	0810	X	X	X	X	X	X	X			
J1B897	SOIL	6-17-10	1020	X	X	X	X	X	X	X			

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J. Sellers	6-17-10 1200	Sterling Howell	6-17-10 1200
Sterling Howell	6-17-10 1535	J. E. Bernhard	6-17-10 1535
J. E. Bernhard	6-21-10 1000	FED EX	
FED EX	6-22-10 09:40	Donna Nicole Smith	6-22-10 09:40

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SJH DATE 6/21/10

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

3999999813

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-107-046	Page 2 of ~~1~~ 2 6-17-10

Collector J. Sellers	Company Contact: Don Woolery Telephone No.: 509-431-0448	Project Coordinator: KESSNER, JH	Price Code: 8L Data Turnaround: 21 Days
Project Designation: 100-H Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 128-H-1 C Verification	SAF No.: RC-107	
Ice Chest No.: ERC-96-030	Field Logbook No.: EL 1627-4 COA: ~~R~~128H12000 0 6-17-10	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A100222	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C				
Type of Container	aG	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	0	1	1	1	0	1				
Volume	250mL	250mL	120mL	120mL	250mL	250mL	120mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081				

Sample No.	Matrix *	Sample Date	Sample Time										
~~J1B898~~ 6-17-10	SOIL												
~~J1B899~~ 6-17-10	SOIL												
~~J1B8B0~~ 6-17-10	SOIL												
J1B8B1	SOIL	6-17-10	1030	X	X	X	X	X	X	X			
~~J1B8B2~~ 6-17-10	SOIL												

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By/Removed From: J. Sellers	Received By/Stored In: Sterling Howell	6-17-10 1200
Relinquished By/Removed From: Sterling Howell	Received By/Stored In: J. E. Bernal	6-17-10 1535
Relinquished By/Removed From: J. E. Bernal	Received By/Stored In: FED EX	6-21-10 1000
Relinquished By/Removed From: FED EX	Received By/Stored In: Donna Smith	6-22-10/0940
Relinquished By/Removed From	Received By/Stored In	
Relinquished By/Removed From	Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Close-out 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)

REVIEWED BY SUDH DATE 6/21/10

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

2598888814

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC. Hanford

Project/SAF/SOW/Release #: RC-107

Date: 6-22-10

LvL Batch #: 1006088

Sample Custodian: [illegible]

NOTE. EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7987 7799 4728 7987 7799 4772
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:* ERC-01-041 holes in bottom of cooler.
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 3.3°C 3.6	°C	Cooler # ERC-96-030
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify) ERC-01-041
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 _____