0078786

SAF-RC-029
Remaining Sites Confirmation Sampling - Soil
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 9/23/08
INITIAL/DATE

COMMENTS:

SDG K1310 SAF RC-029

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Site: 128-H-3

RECEIVED
SEP 29 2008
EDMC

LIONVILLE LABORATORY INC.

RECEIVED
SEP 2008

16 September 2008

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

Subject: Analytical Data Package

Dear Ms. Kessner:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	0808L145
SDG #	K1310
SAF #	RC-029
Date Received	8/29/08
# Samples	7
Matrix	SOIL
Volatiles	X
Semivolatiles	X
Pest/PCB	X
Glycols	
DRO/KRO/GRO	X
GC Alcohols	
Herbicides	
Metals	X
Inorganics	X

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

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager
r:\group\pm\orlette\tnu-hanford\data\b_ltrs.doc

208 Welsh Pool Road • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

RECEIVED
SEP 2008

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

DATE RECEIVED: 08/29/08 LVL LOT # :08081145

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J178T0	001	S	08LE0408	08/27/08	09/02/08	09/10/08
J178T0	001 MS	S	08LE0408	08/27/08	09/02/08	09/10/08
J178T0	001 MSD	S	08LE0408	08/27/08	09/02/08	09/11/08
J178T1	002	S	08LE0408	08/27/08	09/02/08	09/11/08
J178T2	003	S	08LE0408	08/27/08	09/02/08	09/11/08
J178T3	004	S	08LE0408	08/27/08	09/02/08	09/11/08
J178T4	005	S	08LE0408	08/27/08	09/02/08	09/11/08
J178T5	006	S	08LE0408	08/27/08	09/02/08	09/11/08
J178T6	007	S	08LE0408	08/27/08	09/02/08	09/11/08

LAB QC:

SBLKXK	MB1	S	08LE0408	N/A	09/02/08	09/09/08
SBLKXK	MB1 BS	S	08LE0408	N/A	09/02/08	09/09/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: WC-HANFORD RC-029
LVL #: 0808L145
SDG/SAF # K1310 / RC-029

W.O. #: 60049-001-001-0001-00
Date Received: 08-29-2008

SEMIVOLATILE

Seven (7) soil samples were collected on 08-27-2008.

The samples and their associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3540C on 09-02-2008 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 09-09,10,11-2008.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.

2. Samples were extracted and analyzed within holding time.

3. Non-target compounds were detected in these samples.

4. One (1) of sixty-six (66) surrogate recoveries was outside acceptance criteria. The surrogate recovery criteria were not met for sample 08LE0408-MB1. The loss of the surrogate 2,4,6-Tribromophenol in the sample 08LE0408-MB1 appears to be due to a chemical reaction rather than to a problem with the extraction process. Peaks on the chromatogram indicate this reaction. The conversion compound has been reported as a non-target compound in sample 08LE0408-MB1 at a retention time of 21.686 minutes. This surrogate loss has been associated with the use of soxhlet extractions. A copy of the Sample Discrepancy Report (SDR# 08MS202) has been enclosed.

5. All matrix spike recoveries were within acceptance criteria.

r:\group\data\2008\bna\tnu\0808-145cs2.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 23 pages.

LIONVILLE LABORATORY INC.

6. Four (4) of sixty-four (64) blank spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR# 08MS202) has been enclosed.

7. The method blank contained the common laboratory contaminants Di-n-butylphthalate and Bis (2-Ethlyhexy) phthalate at a level less than the 1x the CRQL.

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. Internal standard area and retention time criteria were met.

11. 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").

12. LvLI 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.

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 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 Incorporated

9/16/08
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 08MS202

Initiator: Sharon Saylor
Date: 9-12-08
Client: WC-Hanford RL029 K1310

Batch: 08OFL145
Samples: 85
Method: SW846/MCAWW/CLP/

Parameter: 8270
Matrix: SOLID
Prep Batch: 08LE0408

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)

① <40% recovery of 2,4,6-trichlorophenol in the method blank

② low recovery of several spike analytes in the bs but ms + msd are OK (1,4-Trichlorobenzene, 2,4-dinitrophenol, 4,6 Dinitro-2-methylphenol, indeno (1,2,3-cd) pyrene)

2. Known or Probable Causes(s) ① Low recovery appears to be due to a chemical reaction rather than a problem with the extraction. Conversion cmpd has been reported as TIC in sample. This surrogate loss has been associated with the use of soxhlet extractions. ② Acidic phenols are subject to erratic chromatographic behavior especially if the GC system is contaminated with high boiling material. Other sporadic. All other spikes/surrogates within acceptance criteria. RLG 9/15/08

3. Discussion and Proposed Action

Other Description: narrate

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

9/15/08

4. Project Manager Instructions...signature/date: 9/15/08

__ 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: 9/15/08

Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

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

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

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

GLOSSARY

DATA QUALIFIERS

U = 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 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. 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.

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 closes 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 or integrations 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 resolve 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 - **Co-elution/ Background:** Peak was manually integrated to eliminate contribution from co-eluting compounds, background signal, or other interference.

PI - **Proper Integration:** A peak with poor or inconsistent integration (i.e., excessive tail) was properly integrated manually.

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List — Report Date: 09/14/08 04:12

RFW Batch Number: 0808L145 — Client: WC-HANFORD RC-029 K1310 — Work Order: 60049001001 — Page: 1a

	Cust ID:	J178T0		J178T0		J178T0		J178T1		J178T2		J178T3	
Sample Information	RFW#:	001		001 MS		001 MSD		002		003		004	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	78	%	67	%	83	%	75	%	71	%	78	%
	2-Fluorobiphenyl	83	%	77	%	88	%	80	%	80	%	83	%
	Terphenyl-d14	127	%	97	%	112	%	102	%	97	%	99	%
	Phenol-d5	79	%	68	%	80	%	70	%	74	%	73	%
	2-Fluorophenol	79	%	67	%	78	%	69	%	69	%	72	%
	2,4,6-Tribromophenol	48	%	33	%	47	%	67	%	90	%	65	%
			fl		fl		fl		fl		fl		fl
Phenol		340	U	73	%	82	%	340	U	330	U	330	U
bis(2-Chloroethyl)ether		340	U	60	%	75	%	340	U	330	U	330	U
2-Chlorophenol		340	U	66	%	78	%	340	U	330	U	330	U
1,3-Dichlorobenzene		340	U	59	%	74	%	340	U	330	U	330	U
1,4-Dichlorobenzene		340	U	59	%	74	%	340	U	330	U	330	U
1,2-Dichlorobenzene		340	U	60	%	77	%	340	U	330	U	330	U
2-Methylphenol		340	U	68	%	79	%	340	U	330	U	330	U
2,2'-oxybis(1-Chloropropane)		340	U	57	%	77	%	340	U	330	U	330	U
3/4 Methylphenol		340	U	73	%	82	%	340	U	330	U	330	U
N-Nitroso-di-n-propylamine		340	U	74	%	87	%	340	U	330	U	330	U
Hexachloroethane		340	U	59	%	74	%	340	U	330	U	330	U
Nitrobenzene		340	U	69	%	82	%	340	U	330	U	330	U
Isophorone		340	U	69	%	82	%	340	U	330	U	330	U
2-Nitrophenol		340	U	71	%	82	%	340	U	330	U	330	U
2,4-Dimethylphenol		340	U	73	%	85	%	340	U	330	U	330	U
bis(2-Chloroethoxy)methane		340	U	71	%	88	%	340	U	330	U	330	U
2,4-Dichlorophenol		340	U	72	%	83	%	340	U	330	U	330	U
1,2,4-Trichlorobenzene		340	U	67	%	80	%	340	U	330	U	330	U
Naphthalene		340	U	68	%	83	%	340	U	330	U	330	U
4-Chloroaniline		340	U	45	%	60	%	340	U	330	U	330	U
Hexachlorobutadiene		340	U	72	%	84	%	340	U	330	U	330	U
4-Chloro-3-methylphenol		340	U	80	%	86	%	340	U	330	U	330	U
2-Methylnaphthalene		340	U	73	%	85	%	340	U	330	U	330	U
Hexachlorocyclopentadiene		340	U	75	%	75	%	340	U	330	U	330	U
2,4,6-Trichlorophenol		340	U	37	%	57	%	340	U	330	U	330	U
2,4,5-Trichlorophenol		840	U	65	%	79	%	840	U	830	U	830	U

*= Outside of EPA CLP QC limits.

000000008

Cust ID:	J178T0		J178T0		J178T0		J178T1		J178T2		J178T3	
RFW#:	001		001 MS		001 MSD		002		003		004	
2-Chloronaphthalene	340	U	76	%	88	%	340	U	330	U	330	U
2-Nitroaniline	840	U	86	%	93	%	840	U	830	U	830	U
Dimethylphthalate	340	U	81	%	89	%	340	U	330	U	330	U
Acenaphthylene	340	U	78	%	89	%	340	U	330	U	330	U
2,6-Dinitrotoluene	340	U	82	%	89	%	340	U	330	U	330	U
3-Nitroaniline	840	U	70	%	82	%	840	U	830	U	830	U
Acenaphthene	340	U	78	%	89	%	340	U	330	U	330	U
2,4-Dinitrophenol	840	U	28	%	32	%	840	U	830	U	830	U
4-Nitrophenol	840	U	68	%	64	%	840	U	830	U	830	U
Dibenzofuran	340	U	73	%	85	%	340	U	330	U	330	U
2,4-Dinitrotoluene	340	U	76	%	85	%	340	U	330	U	330	U
Diethylphthalate	340	U	81	%	89	%	340	U	330	U	330	U
4-Chlorophenyl-phenylether	340	U	80	%	86	%	340	U	330	U	330	U
Fluorene	340	U	81	%	91	%	340	U	330	U	330	U
4-Nitroaniline	840	U	72	%	76	%	840	U	830	U	830	U
4,6-Dinitro-2-methylphenol	840	U	43	%	59	%	840	U	830	U	830	U
N-Nitrosodiphenylamine (1)	340	U	72	%	84	%	340	U	330	U	330	U
4-Bromophenyl-phenylether	340	U	82	%	88	%	340	U	330	U	330	U
Hexachlorobenzene	340	U	96	%	102	%	340	U	330	U	330	U
Pentachlorophenol	840	U	55	%	60	%	840	U	830	U	830	U
Phenanthrene	340	U	84	%	97	%	340	U	330	U	330	U
Anthracene	340	U	83	%	95	%	340	U	330	U	330	U
Carbazole	340	U	79	%	89	%	340	U	330	U	330	U
Di-n-butylphthalate	26	JB	81	%	96	%	59	JB	54	JB	94	JB
Fluoranthene	340	U	85	%	91	%	340	U	24	J	330	U
Pyrene	340	U	85	%	106	%	340	U	28	J	330	U
Butylbenzylphthalate	340	U	86	%	108	%	340	U	330	U	22	J
3,3'-Dichlorobenzidine	340	U	68	%	89	%	340	U	330	U	330	U
Benzo(a)anthracene	340	U	88	%	101	%	340	U	18	J	330	U
Chrysene	340	U	89	%	103	%	340	U	20	J	330	U
bis(2-Ethylhexyl)phthalate	69	JB	83	%	101	%	70	JB	120	JB	120	JB
Di-n-octyl phthalate	340	U	80	%	92	%	340	U	330	U	330	U
Benzo(b)fluoranthene	340	U	89	%	98	%	340	U	28	J	330	U
Benzo(k)fluoranthene	340	U	92	%	100	%	340	U	27	J	330	U
Benzo(a)pyrene	340	U	87	%	97	%	340	U	37	J	330	U
Indeno(1,2,3-cd)pyrene	340	U	86	%	101	%	340	U	330	U	330	U
Dibenz(a,h)anthracene	340	U	88	%	104	%	340	U	330	U	330	U
Benzo(g,h,i)perylene	340	U	87	%	103	%	340	U	330	U	330	U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

000000009

	Cust ID:	J178T4	J178T5	J178T6	SBLKXK	SBLKXK BS
Sample Information	RFW#:	005	006	007	08LE0408-MB1	08LE0408-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	69 %	75 %	67 %	48 %	71 %
	2-Fluorobiphenyl	75 %	86 %	70 %	47 %	65 %
	Terphenyl-d14	125 %	128 %	90 %	61 %	85 %
	Phenol-d5	69 %	77 %	62 %	47 %	74 %
	2-Fluorophenol	63 %	70 %	57 %	43 %	67 %
	2,4,6-Tribromophenol	94 %	81 %	32 %	8 * %	23 %
Phenol		340 U	380 U	330 U	330 U	71 %
bis(2-Chloroethyl)ether		340 U	380 U	330 U	330 U	69 %
2-Chlorophenol		340 U	380 U	330 U	330 U	61 %
1,3-Dichlorobenzene		340 U	380 U	330 U	330 U	59 %
1,4-Dichlorobenzene		340 U	380 U	330 U	330 U	57 %
1,2-Dichlorobenzene		340 U	380 U	330 U	330 U	60 %
2-Methylphenol		340 U	380 U	330 U	330 U	66 %
2,2'-oxybis(1-Chloropropane)		340 U	380 U	330 U	330 U	73 %
3/4 Methylphenol		340 U	380 U	330 U	330 U	69 %
N-Nitroso-di-n-propylamine		340 U	380 U	330 U	330 U	71 %
Hexachloroethane		340 U	380 U	330 U	330 U	61 %
Nitrobenzene		340 U	380 U	330 U	330 U	70 %
Isophorone		340 U	380 U	330 U	330 U	65 %
2-Nitrophenol		340 U	380 U	330 U	330 U	62 %
2,4-Dimethylphenol		340 U	380 U	330 U	330 U	63 %
bis(2-Chloroethoxy)methane		340 U	380 U	330 U	330 U	66 %
2,4-Dichlorophenol		340 U	380 U	330 U	330 U	63 %
1,2,4-Trichlorobenzene		340 U	380 U	330 U	330 U	59 * %
Naphthalene		340 U	380 U	330 U	330 U	59 %
4-Chloroaniline		340 U	380 U	330 U	330 U	44 %
Hexachlorobutadiene		340 U	380 U	330 U	330 U	61 %
4-Chloro-3-methylphenol		340 U	380 U	330 U	330 U	71 %
2-Methylnaphthalene		340 U	380 U	330 U	330 U	63 %
Hexachlorocyclopentadiene		340 U	380 U	330 U	330 U	53 %
2,4,6-Trichlorophenol		340 U	380 U	330 U	330 U	32 %
2,4,5-Trichlorophenol		860 U	950 U	830 U	830 U	62 %

*= Outside of EPA CLP QC limits.

000000010

Cust ID:	J178T4		J178T5		J178T6		SBLKXK		SBLKXK BS	
RFW#:	005		006		007		08LE0408-MB1		08LE0408-MB1	
2-Chloronaphthalene	340	U	380	U	330	U	330	U	62	%
2-Nitroaniline	860	U	950	U	830	U	830	U	79	%
Dimethylphthalate	340	U	380	U	330	U	330	U	66	%
Acenaphthylene	340	U	380	U	330	U	330	U	63	%
2,6-Dinitrotoluene	340	U	380	U	330	U	330	U	67	%
3-Nitroaniline	860	U	950	U	830	U	830	U	60	%
Acenaphthene	340	U	380	U	330	U	330	U	63	%
2,4-Dinitrophenol	860	U	950	U	830	U	830	U	13 *	%
4-Nitrophenol	860	U	950	U	830	U	830	U	59	%
Dibenzofuran	340	U	380	U	330	U	330	U	65	%
2,4-Dinitrotoluene	340	U	380	U	330	U	330	U	71	%
Diethylphthalate	340	U	380	U	330	U	330	U	68	%
4-Chlorophenyl-phenylether	340	U	380	U	330	U	330	U	66	%
Fluorene	340	U	380	U	330	U	330	U	66	%
4-Nitroaniline	860	U	950	U	830	U	830	U	61	%
4,6-Dinitro-2-methylphenol	860	U	950	U	830	U	830	U	34 *	%
N-Nitrosodiphenylamine (1)	340	U	380	U	330	U	330	U	55	%
4-Bromophenyl-phenylether	340	U	380	U	330	U	330	U	56	%
Hexachlorobenzene	340	U	380	U	330	U	330	U	65	%
Pentachlorophenol	860	U	950	U	830	U	830	U	30	%
Phenanthrene	340	U	380	U	330	U	330	U	66	%
Anthracene	340	U	380	U	330	U	330	U	64	%
Carbazole	340	U	380	U	330	U	330	U	60	%
Di-n-butylphthalate	120	JB	81	JB	68	JB	41	J	65	%
Fluoranthene	340	U	380	U	330	U	330	U	65	%
Pyrene	340	U	380	U	330	U	330	U	77	%
Butylbenzylphthalate	28	J	380	U	18	J	330	U	71	%
3,3'-Dichlorobenzidine	340	U	380	U	330	U	330	U	45	%
Benzo(a)anthracene	340	U	380	U	330	U	330	U	67	%
Chrysene	340	U	380	U	330	U	330	U	65	%
bis(2-Ethylhexyl)phthalate	160	JB	76	JB	110	JB	23	J	73	%
Di-n-octyl phthalate	340	U	380	U	330	U	330	U	73	%
Benzo(b)fluoranthene	340	U	380	U	330	U	330	U	66	%
Benzo(k)fluoranthene	340	U	380	U	330	U	330	U	67	%
Benzo(a)pyrene	340	U	380	U	330	U	330	U	66	%
Indeno(1,2,3-cd)pyrene	340	U	380	U	330	U	330	U	57 *	%
Dibenz(a,h)anthracene	340	U	380	U	330	U	330	U	60	%
Benzo(g,h,i)perylene	340	U	380	U	330	U	330	U	58	%

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

000000011

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J178T0

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-029 K1310

Matrix: (soil/water) SOIL

Lab Sample ID: 0808L145-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D091013

Level: (low/med) LOW

Date Received: 08/29/08

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/02/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/10/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.744	1000	JAB
2.	UNKNOWN	7.323	50000	JB
3.	ALDOL CONDENSATE	8.631	300	JAB
4.	UNKNOWN	21.430	600	JB
5.	UNKNOWN	24.432	800	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J178T1

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-029 K1310

Matrix: (soil/water) SOIL

Lab Sample ID: 0808L145-002

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D091114

Level: (low/med) LOW

Date Received: 08/29/08

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/02/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/11/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.691	800	JAB
2.	UNKNOWN	7.279	60000	JB
3.	UNKNOWN	31.008	500	J
4.	UNKNOWN	34.352	400	J
5.	UNKNOWN	37.355	700	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J178T2

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-029 K1310

Matrix: (soil/water) SOIL

Lab Sample ID: 0808L145-003

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D091115

Level: (low/med) LOW

Date Received: 08/29/08

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/02/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/11/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.764	700	JAB
2.	ALDOL CONDENSATE	7.344	70000	JAB
3.	UNKNOWN	12.391	3000	J
4.	UNKNOWN	12.418	3000	J
5. 4707-47-5	2,4-DIHYDROXY-3,6-DIMETHYL B	20.196	1000	JN

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J178T3

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-029 K1310

Matrix: (soil/water) SOIL

Lab Sample ID: 0808L145-004

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D091113

Level: (low/med) LOW

Date Received: 08/29/08

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 09/02/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/11/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.726	1000	JAB
2.	UNKNOWN	7.305	80000	JB
3.	ALDOL CONDENSATE	8.596	400	JAB
4.	UNKNOWN	24.415	500	J
5.	UNKNOWN	39.689	500	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J178T4

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-029 K1310

Matrix: (soil/water) SOIL

Lab Sample ID: 0808L145-005

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D091110

Level: (low/med) LOW

Date Received: 08/29/08

% Moisture: 3 decanted: (Y/N)__

Date Extracted: 09/02/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/11/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	3.785	200	J
2.	ALDOL CONDENSATE	6.691	900	JAB
3.	UNKNOWN	7.270	50000	JB
4.	ALDOL CONDENSATE	8.604	200	JAB
5.	UNKNOWN	41.919	200	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J178T5

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-029 K1310

Matrix: (soil/water) SOIL

Lab Sample ID: 0808L145-006

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D091111

Level: (low/med) LOW

Date Received: 08/29/08

% Moisture: 12 decanted: (Y/N)__

Date Extracted: 09/02/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/11/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.727	1000	JAB
2.	UNKNOWN	7.297	60000	JB
3.	UNKNOWN	24.415	500	J
4.	UNKNOWN	35.450	400	J
5.	UNKNOWN	40.445	400	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J178T6

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-029 K1310

Matrix: (soil/water) SOIL

Lab Sample ID: 0808L145-007

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D091112

Level: (low/med) LOW

Date Received: 08/29/08

% Moisture: 0 decanted: (Y/N)__

Date Extracted: 09/02/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/11/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.726	900	JAB
2.	UNKNOWN	7.332	60000	JB
3.	ALDOL CONDENSATE	8.605	300	JAB
4.	UNKNOWN	21.413	500	JB
5.	UNKNOWN	40.480	400	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKXK

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-029 K1310

Matrix: (soil/water) SOIL

Lab Sample ID: 08LE0408-MB1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: C090907

Level: (low/med) LOW

Date Received: 09/02/08

% Moisture: _____ decanted: (Y/N)__

Date Extracted: 09/02/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/09/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	3.753	300	JA
2.	ALDOL CONDENSATE	6.440	1000	JA
3.	UNKNOWN	7.095	50000	J
4.	ALDOL CONDENSATE	8.611	300	JA
5.	UNKNOWN	21.686	400	J

Lionville Laboratory Use Only

08081 145

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: Washington Closure Hanford RC-029

est. Final Proj. Sampling Date:

Project#: 60049-001-001-0001-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: D. JOHNSON

QC: SW846 Del: STD TAT: 15 days

Date Rec'd: 8-29-08 Date Due: 9-13-08

		A	B	C					D			E	F			
Refrigerator #		6	2	2					2			2	2			
#/Type Container	Liquid															
	Solid	1G	1G	1G					1G	—		1G	1G			
Volume		60	250	250					60	—		120	250			
Preservatives		—	—	—					—			—	—			
ANALYSES REQUESTED		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				TC Metal Hg	CN	TCLP Hg	Hex Cr	TOT TPH			

Lionville Laboratory Use Only

MATRIX CODES: S- Soil, SE- Sediment, SO- Solid, SL- Sludge, W- Water, O- Oil, A- Air, DS- Drum Solids, DL- Drum Liquids, EP/TCLP Leachate, WI- Wipe, O- Other, F- Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	06244	06254	06084 OPCB				METO RCRA			ICP6	ICP8	ODRO		
	001	T178TO			Soil	8-27-08	0840	X	X	X				X		X	X	X			
	002	1					0905	X	X	X				X	8-29-08	X	X	X			
	003	2					0915	X	X	X				X		X	X	X			
	004	3					0945	X	X	X				X		X	X	X			
	005	4					1005	X	X	X				X		X	X	X			
	006	T178T 5			Soil	8-27-08	1006	X	X	X				X		X	X	X			
	007	6					1030	X	X					X							

Special Instructions:

FTO = HSL + B, Mo, Si

No TL

Special Instructions:

9-4-08 1. Cancel IPHC add ODRO. Lab report Diesel and motor oil

2. per client

3.

4.

5.

6.

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

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

000000020

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-029-046

ollector: Welch – Koellings	Company Contact: Matt Perrott	Telephone No.: 372-9088	Project Coordinator: KESSNER, JH
Price Code: 8C	Data Turnaround: 15 Days		
:oject Designation: Remaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3		SAF No.: RC-029
:e Chest No.: SACWS - 10	Field Logbook No.: EL-1601-2	COA: C128H31W00	Method of Shipment: FedEx
hipped To: EBERLINE SERVICES/LIONVILLE	Offsite Property No.: A080319		Bill of Lading/Air Bill No.: See OSPC

'OSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
178T0	SOIL	8/27/08	0840	X	X	X	X	X	X		
178T1	SOIL	8/27/08	0905	X	X	X	X	X	X		
178T2	SOIL	8/27/08	0915	X	X	X	X	X	X		
178T3	SOIL	8/27/08	0945	X	X	X	X	X	X		
178T4	SOIL	8/27/08	1005	X	X	X	X	X	X		

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Welch Koellings	8/27/08 1102	BHUDSON BHudson	1102 8/27/08
HUDSON BHudson	8/27/08 1810	1060 #3C	8/27/08 1810
1060 #3C	8-28-08 1000	Barry Lawrence	1000 8-28-08
Barry Lawrence	8-28-08 1000	FED EX	
FED EX	8/29/08 0945		8/29/08 0945

SPECIAL INSTRUCTIONS

TOTAL METALS 6010

(1) Metals by ICP ~~(TCLP) - 1311/6010~~ [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury (TCLP) - 1311/7470 BH 8/27/08

mercury JEG 8-28-08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

MS

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

ABORATORY SECTION	Received By	Title	Date/Time
:NAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

:CH-EE-011

000000021

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-029-046 | Page 2 of 2

ollector: Welch-Koelling	Company Contact: Matt Perrott	Telephone No.: 372-9088	Project Coordinator: KESSNER, JH
Price Code: 8C	Data Turnaround: 15 Days		
olect Designation: Remaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3		SAF No.: RC-029
e Chest No.: SAW2- ERC-02-406	Field Logbook No.: EL-1601-2	COA: C128H31W00	Method of Shipment: FedEx
hipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080319		Bill of Lading/Air Bill No.: SCC OSPC

'OSSIBLE SAMPLE HAZARDS/REMARKS

'pecial Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
178T5 ✓	SOIL	8/27/08	8/27/08 1006	X	X	X	X	X	X		
178T6 ✓	SOIL	8/27/08	1000	X	~~X~~	~~X~~ BH 8/27/08	X	X	~~X~~ BH 8/27/08		
178T7	SOIL										
178T8	SOIL										
178T9	SOIL										

CHAIN OF POSSESSION	Sign/Print Names		
linquished By/Removed From: Welch-Koelling	Date/Time: 8/27/08 11:02	Received By/Stored In: BILL HUDSON	Date/Time: 1102 8/27/08
inquished By/Removed From: HUDSON	Date/Time: 8/27/08 1810	Received By/Stored In: 1060 #3C	Date/Time: 8/27/08 1810
inquished By/Removed From: 060 #3C	Date/Time: 1000 8-28-08	Received By/Stored In: Barry Lawrence	Date/Time: 1000 8-28-08
inquished By/Removed From: Barry Lawrence	Date/Time: 1000 8-28-08	Received By/Stored In: FED EX	Date/Time:
inquished By/Removed From: FED EX	Date/Time: 8/29/08 0945	Received By/Stored In:	Date/Time: 8/29/08 0945
inquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

SPECIAL INSTRUCTIONS

TOTAL METALS 6010 TR

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

mercury SWB 8-28-08

BH 8/27/08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

ABORATORY SECTION	Received By	Title	Date/Time
'NAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

000000022

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: Washington Closure Hanford Date: 8/29/08

Project/SAF/SOW/Release #: RC-029

LvLI Batch #: 08081145 Sample Custodian: V. Kennedy

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 799368150566 792743980699
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp ~~4.4~~ 4.3	°C	Cooler # ERC-02-406 ERC-03-102
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) 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 LvLI 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 _____

LvLI LIONVILLE LABORATORY INC.

Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

RECEIVED
SEP 2008

DATE RECEIVED: 08/29/08 LVL LOT # 0808L145

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J178T0	001	S	08LVK164	08/27/08	N/A	09/09/08
J178T1	002	S	08LVK164	08/27/08	N/A	09/09/08
J178T2	003	S	08LVK164	08/27/08	N/A	09/09/08
J178T3	004	S	08LVK164	08/27/08	N/A	09/09/08
J178T4	005	S	08LVK164	08/27/08	N/A	09/09/08
J178T5	006	S	08LVK164	08/27/08	N/A	09/09/08
J178T6	007	S	08LVK164	08/27/08	N/A	09/09/08
J178T6	007 MS	S	08LVK164	08/27/08	N/A	09/09/08
J178T6	007 MSD	S	08LVK164	08/27/08	N/A	09/09/08

LAB QC:

VBLKGA	MB1	S	08LVK164	N/A	N/A	09/09/08
VBLKGA	MB1 BS	S	08LVK164	N/A	N/A	09/09/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: WC-HANFORD RC-029
LVL #: 0808L145
SDG/SAF # K1310/RC-029

W.O. #: 60049-001-001-0001-00
Date Received: 08-29-2008

GC/MS VOLATILE

Seven (7) soil samples were collected on 08-27-2008.

The samples and their associated QC samples were analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8260B for TCL Volatile target compounds on 09-09-2008.

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

1. Samples were analyzed within required holding time.
2. Non-target compounds were detected in these samples.
3. All surrogate recoveries were within acceptance criteria.
4. Three (3) of seventy (70) matrix spike recoveries were outside acceptance criteria.
5. One (1) of thirty-five (35) blank spike recoveries was outside acceptance criteria.
6. The method blank contained Methylene Chloride at levels less than 2x the reporting limit.
7. All internal standard area and retention time criteria were met.
8. The CCL analyzed on 09-09-2008 on instrument 5972K did not meet the in-house %D of 40% for the compound Bromoform. There is minimal impact on data as this compound was not detected in the samples. A copy of the Sample Discrepancy Report (SDR# 08VT047) has been included in the package.

r:\group\data\2008\voa\tnu\0808-145cs2.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 23 pages.

LIONVILLE LABORATORY INC.

9. Manual integrations are performed according to SOP QA-125 to produce quality data with 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").

10. LvLI 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.

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 ofthe 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 Incorporated

9/15/08
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 08V047

Initiator: Jack Blacken
Date: 9/10/08
Client: Washington Closure Hanford

Batch: 0908L145
Samples: all
Method: SW846/MCAWW/CLP/ 5035

Parameter: 0624H
Matrix: soil
Prep Batch: 08LVK164

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)

bromoform was 42.0% high in the daily CCV, and the in-house limit is 40%.

2. Known or Probable Causes(s)

response factor for this compound has gotten larger for some reason

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:
Report + narrate

4. Project Manager Instructions...signature/date: 9/15/08
__ 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: 9/15/08
__ Verified re-[log][leach][extract][digest][analysis] (circle)
__ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

Other Explanation:

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: _____

GLOSSARY

DATA QUALIFIERS

U = 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 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. 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 or integrations 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.

Volatiles by GC/MS, HSL List

Report Date: 09/12/08 13:15

RFW Batch Number: 0808L145 Client: WC-HANFORD RC-029 K1310 Work Order: 60049001001 Page: 1a

	Cust ID:	J178T0	J178T1	J178T2	J178T3	J178T4	J178T5
Sample Information	RFW#:	001	002	003	004	005	006
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	0.877	0.962	1.04	0.980	0.980	0.962
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Toluene-d8	92 %	94 %	92 %	94 %	93 %	96 %
	Bromofluorobenzene	85 %	92 %	91 %	92 %	88 %	96 %
	1,2-Dichloroethane-d4	124 %	124 %	127 %	126 %	124 %	127 %
		fl	fl	fl	fl	fl	fl
Chloromethane		9 U	10 U	10 U	10 U	10 U	11 U
Bromomethane		9 U	10 U	10 U	10 U	10 U	11 U
Vinyl Chloride		9 U	10 U	10 U	10 U	10 U	11 U
Chloroethane		9 U	10 U	10 U	10 U	10 U	11 U
Methylene Chloride		5 B	4 JB	5 JB	4 JB	6 B	6 B
Acetone		9 U	10 U	10 U	10 U	10 U	11 U
Carbon Disulfide		4 U	5 U	5 U	5 U	5 U	6 U
1,1-Dichloroethene		4 U	5 U	5 U	5 U	5 U	6 U
1,1-Dichloroethane		4 U	5 U	5 U	5 U	5 U	6 U
1,2-Dichloroethene (total)		4 U	5 U	5 U	5 U	5 U	6 U
Chloroform		4 U	5 U	5 U	5 U	5 U	6 U
1,2-Dichloroethane		4 U	5 U	5 U	5 U	5 U	6 U
2-Butanone		9 U	10 U	10 U	10 U	10 U	11 U
1,1,1-Trichloroethane		4 U	5 U	5 U	5 U	5 U	6 U
Carbon Tetrachloride		4 U	5 U	5 U	5 U	5 U	6 U
Bromodichloromethane		4 U	5 U	5 U	5 U	5 U	6 U
1,2-Dichloropropane		4 U	5 U	5 U	5 U	5 U	6 U
cis-1,3-Dichloropropene		4 U	5 U	5 U	5 U	5 U	6 U
Trichloroethene		4 U	5 U	5 U	5 U	5 U	6 U
Dibromochloromethane		4 U	5 U	5 U	5 U	5 U	6 U
1,1,2-Trichloroethane		4 U	5 U	5 U	5 U	5 U	6 U
Benzene		4 U	5 U	5 U	5 U	5 U	6 U
Trans-1,3-Dichloropropene		4 U	5 U	5 U	5 U	5 U	6 U
Bromoform		4 U	5 U	5 U	5 U	5 U	6 U
4-Methyl-2-pentanone		9 U	10 U	10 U	10 U	10 U	11 U
2-Hexanone		9 U	10 U	10 U	10 U	10 U	11 U
Tetrachloroethene		4 U	5 U	5 U	5 U	5 U	6 U
1,1,2,2-Tetrachloroethane		4 U	5 U	5 U	5 U	5 U	6 U
Toluene		4 U	5 U	5 U	5 U	5 U	6 U

*= Outside of EPA CLP QC limits.

000000008

Cust ID:	J178T0	J178T1	J178T2	J178T3	J178T4	J178T5
RFW#:	001	002	003	004	005	006
Chlorobenzene	4 U	5 U	5 U	5 U	5 U	6 U
Ethylbenzene	4 U	5 U	5 U	5 U	5 U	6 U
Styrene	4 U	5 U	5 U	5 U	5 U	6 U
Xylenes (total)	4 U	5 U	5 U	5 U	5 U	6 U
cis-1,2-dichloroethene	4 U	5 U	5 U	5 U	5 U	6 U
trans-1,2-dichloroethene	4 U	5 U	5 U	5 U	5 U	6 U

*= Outside of EPA CLP QC limits.

000000009

Volatiles by GC/MS, HSL List

Report Date: 09/12/08 13:15

RFW Batch Number: 0808L145 Client: WC-HANFORD RC-029 K1310 Work Order: 60049001001 Page: 2a

	Cust ID:	J178T6	J178T6	J178T6	VBLKGA	VBLKGA BS
Sample Information	RFW#:	007	007 MS	007 MSD	08LVK164-MB1	08LVK164-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	0.943	0.926	0.943	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Toluene-d8	96 %	93 %	90 %	93 %	94 %
	Bromofluorobenzene	103 %	87 %	82 %	82 %	83 %
	1,2-Dichloroethane-d4	135 %	131 %	129 %	113 %	112 %
		fl	fl	fl	fl	fl fl
Chloromethane		9 U	59 %	56 %	10 U	59 %
Bromomethane		9 U	116 %	110 %	10 U	106 %
Vinyl Chloride		9 U	72 %	69 %	10 U	70 %
Chloroethane		9 U	81 %	75 %	10 U	78 %
Methylene Chloride		5 B	61 %	61 %	6	59 %
Acetone		9 U	167 %	164 %	10 U	129 %
Carbon Disulfide		5 U	99 %	96 %	5 U	95 %
1,1-Dichloroethene		5 U	115 %	113 %	5 U	109 %
1,1-Dichloroethane		5 U	98 %	97 %	5 U	91 %
1,2-Dichloroethene (total)		5 U	107 %	107 %	5 U	100 %
Chloroform		5 U	120 %	120 %	5 U	136 %
1,2-Dichloroethane		5 U	137 %	140 %	5 U	120 %
2-Butanone		9 U	109 %	103 %	10 U	89 %
1,1,1-Trichloroethane		5 U	129 %	126 %	5 U	118 %
Carbon Tetrachloride		5 U	139 %	130 %	5 U	126 %
Bromodichloromethane		5 U	125 %	125 %	5 U	113 %
1,2-Dichloropropane		5 U	84 %	85 %	5 U	77 %
cis-1,3-Dichloropropene		5 U	93 %	92 %	5 U	87 %
Trichloroethene		5 U	130 %	127 %	5 U	121 %
Dibromochloromethane		5 U	130 %	131 * %	5 U	111 %
1,1,2-Trichloroethane		5 U	92 %	94 %	5 U	83 %
Benzene		5 U	96 %	96 %	5 U	92 %
Trans-1,3-Dichloropropene		5 U	99 %	102 %	5 U	95 %
Bromoform		5 U	143 * %	148 * %	5 U	120 %
4-Methyl-2-pentanone		9 U	63 %	66 %	10 U	52 %
2-Hexanone		9 U	80 %	79 %	10 U	72 %
Tetrachloroethene		5 U	124 %	122 %	5 U	125 %
1,1,2,2-Tetrachloroethane		5 U	76 %	77 %	5 U	62 * %
Toluene		5 U	90 %	90 %	5 U	89 %

*= Outside of EPA CLP QC limits.

000000010

Cust ID:	J178T6		J178T6		J178T6		VBLKGA		VBLKGA BS	
RFW#:	007		007 MS		007 MSD		08LVK164-MB1		08LVK164-MB1	
Chlorobenzene	5	U	105	%	102	%	5	U	102	%
Ethylbenzene	5	U	99	%	98	%	5	U	98	%
Styrene	5	U	101	%	103	%	5	U	101	%
Xylenes (total)	5	U	100	%	100	%	5	U	100	%
cis-1,2-dichloroethene	5	U	110	%	107	%	5	U	102	%
trans-1,2-dichloroethene	5	U	105	%	107	%	5	U	98	%

*= Outside of EPA CLP QC limits.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J178T0

Lab Name: Lionville Labs, Inc. Contract: 60049001001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 0808L145-001

Sample wt/vol: 5.70 (g/mL) G Lab File ID: k090915

Level: (low/med) LOW Date Received: 08/29/08

% Moisture: not dec. 1 Date Analyzed: 09/09/08

Column: (pack/cap) CAP Dilution Factor: 0.877

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 VOA-TIC 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J178T1

Lab Name: Lionville Labs, Inc. Contract: 60049001001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 0808L145-002

Sample wt/vol: 5.20 (g/mL) G Lab File ID: k090907

Level: (low/med) LOW Date Received: 08/29/08

% Moisture: not dec. 1 Date Analyzed: 09/09/08

Column: (pack/cap) CAP Dilution Factor: 0.962

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SILOXANE	16.974	10	JB

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1E
VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J178T2

Lab Name: Lionville Labs, Inc. Contract: 60049001001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 0808L145-003

Sample wt/vol: 4.80 (g/mL) G Lab File ID: k090908

Level: (low/med) LOW Date Received: 08/29/08

% Moisture: not dec. 1 Date Analyzed: 09/09/08

Column: (pack/cap) CAP Dilution Factor: 1.04

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SILOXANE	16.969	9	JB

FORM 1 VOA-TIC 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J178T3

Lab Name: Lionville Labs, Inc. Contract: 60049001001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 0808L145-004

Sample wt/vol: 5.10 (g/mL) G Lab File ID: k090909

Level: (low/med) LOW Date Received: 08/29/08

% Moisture: not dec. 1 Date Analyzed: 09/09/08

Column: (pack/cap) CAP Dilution Factor: 0.980

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SILOXANE	16.971	7	JB

FORM 1 VOA-TIC 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J178T4

Lab Name: Lionville Labs, Inc. Contract: 60049001001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 0808L145-005

Sample wt/vol: 5.10 (g/mL) G Lab File ID: k090910

Level: (low/med) LOW Date Received: 08/29/08

% Moisture: not dec. 3 Date Analyzed: 09/09/08

Column: (pack/cap) CAP Dilution Factor: 0.980

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SILOXANE	16.950	6	JB

FORM 1 VOA-TIC 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J178T5

Lab Name: Lionville Labs, Inc. Contract: 60049001001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 0808L145-006

Sample wt/vol: 5.20 (g/mL) G Lab File ID: k090911

Level: (low/med) LOW Date Received: 08/29/08

% Moisture: not dec. 12 Date Analyzed: 09/09/08

Column: (pack/cap) CAP Dilution Factor: 0.962

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SILOXANE	16.969	7	JB

FORM 1 VOA-TIC 1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J178T6

Lab Name: Lionville Labs, Inc. Contract: 60049001001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 0808L145-007

Sample wt/vol: 5.30 (g/mL) G Lab File ID: k090912

Level: (low/med) LOW Date Received: 08/29/08

% Moisture: not dec. 0 Date Analyzed: 09/09/08

Column: (pack/cap) CAP Dilution Factor: 0.943

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SILOXANE	16.985	8	JB
2.	UNKNOWN	23.702	6	J

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1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKGA

Lab Name: Lionville Labs, Inc. Contract: 60049001001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 08LVK164-MB1

Sample wt/vol: 5.00 (g/mL) G Lab File ID: k090904

Level: (low/med) LOW Date Received: 09/09/08

% Moisture: not dec. 0 Date Analyzed: 09/09/08

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SILOXANE	16.952	10	J

FORM 1 VOA-TIC 1/87 Rev.

Lionville Laboratory Use Only

0808L 145

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: Washington Closure Hanford RC-029

Est. Final Proj. Sampling Date:

Project#: 60049-001-001-0001-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: O-JOHNSON

QC: SW846 Del: STD TAT: 15 days

Date Rec'd: 8-29-08 Date Due: 9-13-08

	A	B	C					D			E	F			
Refrigerator #	6	2	2					2			2	2			
#/Type Container (Liquid / Solid)	16	16	16					16			16	16			
Volume	60	250	250					60			120	250			
Preservatives	—	—	—					—			—	—			
ANALYSES REQUESTED	ORGANIC							INORG							
	VOA	BNA	~~Pest/~~ PCB	Herb				TCLP Metal Hg	CN	TCLP Hg	Hex Chr	TOT TPH			
	Lionville Laboratory Use Only														
	06244	06254	0608H 0PCB					METO RCRA			ICP6	IPHC	ODRO		

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	PCB	Herb				TCLP Metal	CN	TCLP Hg	Hex Chr	TOT TPH			
001	T178TO			Soil	8-27-08	0840	X	X	X					X	8-29-08	X	X	X			
002	1					0905	X	X	X					X		X	X	X			
003	2					0915	X	X	X					X		X	X	X			
004	3					0945	X	X	X					X		X	X	X			
005	4					1005	X	X	X					X		X	X	X			
006	T178T 5			Soil	8/27/08	1006	X	X	X					X		X	X	X			
007	6					1000	X	X						X							

Special Instructions:

METO = HSL + B, Mo, Si

No TL

Special Instructions:

9-4-08 1. Cancel IPHC add ODRO. Lab report Diesel and motor oil

2. per client

3.

4.

5.

6.

Relinquished by	Received by	Date	Time

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-029-046	Page 1 of 2

Collector: Welch - Koelling	Company Contact: Matt Perrott	Telephone No.: 372-9088	Project Coordinator: KESSNER, JH
Price Code: 8C	Data Turnaround: 15 Days		
Project Designation: Remaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3		SAF No.: RC-029
Ice Chest No.: SACWS - 10	Field Logbook No.: EL-1601-2	COA: C128H31W00	Method of Shipment: FedEx
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080319		Bill of Lading/Air Bill No.: See OPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
J178T0	SOIL	8/27/08	0840	X	X	X	X	X	X		
J178T1	SOIL	8/27/08	0905	X	X	X	X	X	X		
J178T2	SOIL	8/27/08	0915	X	X	X	X	X	X		
J178T3	SOIL	8/27/08	0945	X	X	X	X	X	X		
J178T4	SOIL	8/27/08	1005	X	X	X	X	X	X		

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Toni Welch Koelling	Date/Time: 8/27/08 1102	Received By/Stored In: BHUDSON	Date/Time: 8/27/08 1102
Relinquished By/Removed From: BHUDSON	Date/Time: 8/27/08 1810	Received By/Stored In: 1060 #3C	Date/Time: 8/27/08 1810
Relinquished By/Removed From: 1060 #3C	Date/Time: 8-28-08 1000	Received By/Stored In: Barry Lawrence	Date/Time: 8-28-08 1000
Relinquished By/Removed From: Barry Lawrence	Date/Time: 8-28-08 1000	Received By/Stored In: FED EX	Date/Time:
Relinquished By/Removed From: FED EX	Date/Time: 8/29/08 0945	Received By/Stored In:	Date/Time: 8/29/08 0945
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

SPECIAL INSTRUCTIONS

TOTAL METALS 6010

(1) Metals by ICP ~~(TCLP) - 1311/6010~~ (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury (TCLP) - 1311/7470 BH 8/27/08

mercury JEG 8-28-08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

000000021

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-029-046	Page 2 of 2

Collector: Welch-Koelling	Company Contact: Matt Perrott	Telephone No.: 372-9088	Project Coordinator: KESSNER, JH
Price Code: 8C	Data Turnaround: 15 Days		
Project Designation: Remaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3		SAF No.: RC-029
Ice Chest No.: SAWS- ERC-02-406	Field Logbook No.: EL-1601-2	COA: C128H31W00	Method of Shipment: FedEx
Shipped To: EBERLINE SERVICES/ LIONVILLE	Offsite Property No.: A080319		Bill of Lading/Air Bill No.: see OSPC

000000022

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					

Sample No.	Matrix *	Sample Date	Sample Time										
J178T5 ✓	SOIL	8/27/08	BH 8/27/08 1005	X	X	X	X	X	X				
J178T6 ✓	SOIL	8/27/08	1000	X	~~X~~	~~X~~ BH 8/27/08	X	X	~~X~~ BH 8/27/08				
J178T7	SOIL												
J178T8	SOIL												
J178T9	SOIL												

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Sign/Print Names	Date/Time
Relinquished By/Removed From	TONI WELCH-KOELLING	8/27/08 11:02	Received By/Stored In	BILL HUDSON BHudson	8/27/08 1102
Relinquished By/Removed From	BHudson BHudson	8/27/08 1810	Received By/Stored In	1060 #3C	8/27/08 1810
Relinquished By/Removed From	1060 #3C	8-28-08 1000	Received By/Stored In	Barry Lawrence	8-28-08 1000
Relinquished By/Removed From	Barry Lawrence	8-28-08 1000	Received By/Stored In	FED EX	
Relinquished By/Removed From	FED EX	8/29/08 0945	Received By/Stored In		8/29/08 0945
Relinquished By/Removed From			Received By/Stored In		

SPECIAL INSTRUCTIONS

TOTAL METALS 6010 TR

(1) Metals by ICP (TCLP) 1311/6010 [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury (TCLP) 1311/7470

mercury SWB 8/28-08

BH 8/27/08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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 Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: Washington Closure Hanford Date: 8/29/08

Project/SAF/SOW/Release #: RC-029

LvLI Batch #: 08081145 Sample Custodian: V. Kennedy

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 799368150566 79274398 0699
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp ~~4.4~~ 4.3	°C	Cooler # ERC-02-406 ERC-03-102
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) 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 LvLI 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 _____

LvLI LIONVILLE LABORATORY INC

Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

RECEIVED
SEP 2008

DATE RECEIVED: 08/29/08 LVL LOT # :08081145

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J178T0	001	S	08LE0414	08/27/08	09/03/08	09/05/08
J178T0	001 MS	S	08LE0414	08/27/08	09/03/08	09/05/08
J178T0	001 MSD	S	08LE0414	08/27/08	09/03/08	09/05/08
J178T1	002	S	08LE0414	08/27/08	09/03/08	09/05/08
J178T2	003	S	08LE0414	08/27/08	09/03/08	09/05/08
J178T3	004	S	08LE0414	08/27/08	09/03/08	09/05/08
J178T4	005	S	08LE0414	08/27/08	09/03/08	09/05/08
J178T5	006	S	08LE0414	08/27/08	09/03/08	09/05/08

LAB QC:

PBLKUH	MB1	S	08LE0414	N/A	09/03/08	09/05/08
PBLKUH	MB1 BS	S	08LE0414	N/A	09/03/08	09/05/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: WC-HANFORD RC-029
LVL #: 0808L145
SDG/SAF # K1310 / RC-029

W.O. #: 60049-001-001-0001-00
Date Received: 08-29-2008

PCB

Six (6) soil samples were collected on 08-27-2008.

The samples and their associated QC samples was extracted on 09-03-2008 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 09-05-2008. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8082.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of the QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. All required holding times for extraction and analysis have been met.
2. The samples and their associated QC samples received Copper-Sulfur and Sulfuric Acid clean ups according to Lionville Laboratory SOPs based on SW846 methods 3660A and 3665A respectively.
3. The method blank was below the reporting limits for all target compounds.
4. All obtainable surrogate recoveries were within acceptance criteria.
5. All blank spike recoveries were within acceptance criteria.
6. Matrix spike recoveries were within acceptance criteria.
7. All initial calibrations associated with this data set were within acceptance criteria.

r:\group\data\2008\pest\tmu\0808-145cs2.pcb.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 10 pages.

LIONVILLE LABORATORY INC.

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

9. LvLI 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.

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
Laboratory Manager
Lionville Laboratory Incorporated

Date 9/9/08

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.

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.
P	=	This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I 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.
		No pattern match for multi-component target analytes.

Lionville Laboratory Use Only

0808L145

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: Washington Closure Hanford RC-029

Est. Final Proj. Sampling Date:

Project#: 60049-001-001-0001-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: D. JOHNSON

QC: SW846 Del: STD TAT: 15 days

Date Rec'd: 8-29-08 Date Due: 9-13-08

	A	B	C	D	E	F
Refrigerator #	6	2	2	2	2	2
#/Type Container (Liquid / Solid)	1G	1G	1G	1G	1G	1G
Volume	60	250	250	60	120	250
Preservatives	—	—	—	—	—	—
ANALYSES REQUESTED (ORGANIC)	VOA	BNA	Pest/PCB	Herb		
(INORG)				TOC	CN	TOT Hg / Hex Cr / TOT TPH

Lionville Laboratory Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	06 24H	06 25H	0808H OPCB	METHOD ACCEPT			ICP6	ICP6	ODRO
001	T178TO			Soil	8-27-08	0840	X	X	X	X	8-29-08	X	X	X	
002	1					0905	X	X	X	X		X	X	X	
003	2					0915	X	X	X	X		X	X	X	
004	3					0945	X	X	X	X		X	X	X	
005	4					1005	X	X	X	X		X	X	X	
006	T178T 5			Soil	8/27/08	1006	X	X	X	X		X	X	X	
007	6					1000	X	X		X					

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

Special Instructions:

ETO = HSL + B, Mo, Si

No TL

Special Instructions:

9-4-08 1. Cancel IPHC add ODRO. Lab report Diesel and motor oil per client

2.

3.

4.

5.

6.

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

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

5000000000

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-029-046 | Page 1 of 2

ollector Welch – Koalling	Company Contact Matt Perrott	Telephone No. 372-9088	Project Coordinator KESSNER, JH
Price Code 8C	Data Turnaround 15 Days		
oject Designation Remaining Sites Confirmation Sampling - Soil	Sampling Location 128-H-3		SAF No. RC-029
e Chest No. SACWS - 10	Field Logbook No. EL-1601-2	COA C128H31W00	Method of Shipment FedEx
ipped To EBERLINE SERVICES/LIONVILLE	Offsite Property No. A080319		Bill of Lading/Air Bill No. See OPC

'OSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
178T0	SOIL	8/27/08	0840	X	X	X	X	X	X		
178T1	SOIL	8/27/08	0905	X	X	X	X	X	X		
178T2	SOIL	8/27/08	0915	X	X	X	X	X	X		
178T3	SOIL	8/27/08	0945	X	X	X	X	X	X		
178T4	SOIL	8/27/08	1005	X	X	X	X	X	X		

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
linquished By/Removed From [illegible]	8/27/08 1102	Received By/Stored In BHUDSON BHudson	8/27/08 1102
linquished By/Removed From HUDSON BHudson	8/27/08 1810	Received By/Stored In 1060 #3C	8/27/08 1810
linquished By/Removed From 060 #3C	8-28-08 1000	Received By/Stored In Barry Lawrence	8-28-08 1000
linquished By/Removed From Barry Lawrence	8-28-08 1000	Received By/Stored In FED EX	
linquished By/Removed From FedEx	8/29/08 0945	Received By/Stored In	8/29/08 0945
linquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Metals by ICP ~~(TCLP) - 1311/6010~~ TOTAL METALS 6010 [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury (TCLP) - 1311/7470 mercury

BH 8/27/08 OEG 8-28-08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

ABORATORY SECTION	Received By	Title	Date/Time
INAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

'CH-EE-011

000000000

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-029-046	Page 2 of 2
ollector: Welch-Koelling	Company Contact: Matt Perrott; Telephone No.: 372-9088	Project Coordinator: KESSNER, JH	Price Code: 8C; Data Turnaround: 15 Days
oject Designation: Remaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3	SAF No.: RC-029	
e Chest No.: SAGUS- ERC-02-406	Field Logbook No.: EL-1601-2; COA: C128H31W00	Method of Shipment: FedEx	
hipped To: EBERLINE SERVICES/ LIONVILLE	Offsite Property No.: A080319	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

pecial Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
78T5 ✓	SOIL	8/27/08	~~1005~~ 1006	X	X	X	X	X	X		
78T6 ✓	SOIL	8/27/08	1000	X	~~X~~	~~X~~ BH 8/27/08	X	X	~~X~~ BH 8/27/08		
78T7	SOIL										
78T8	SOIL										
78T9	SOIL										

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix *
inquished By/Removed From: WELCH-KOELLING; Date/Time: 8/27/08 11:02	Received By/Stored In: BILL HUDSON BHudson; Date/Time: 8/27/08 1102	TOTAL METALS 6010 TR (1) Metals by ICP ~~(TCLP) 1311/6010~~ [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury (TCLP) - 1311/7470 mercury SWB 8/27-08 BH 8/27/08	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
inquished By/Removed From: HUDSON BHudson; Date/Time: 8/27/08 1810	Received By/Stored In: 1060 #3C; Date/Time: 8/27/08 1810		
inquished By/Removed From: 060 #3C; Date/Time: 1000 8-28-08	Received By/Stored In: Barry Lawrence; Date/Time: 1000 8-28-08		
inquished By/Removed From: Barry Lawrence; Date/Time: 1000 8-28-08	Received By/Stored In: FED EX; Date/Time:		
inquished By/Removed From: FED EX; Date/Time: 8/29/08 0945	Received By/Stored In: ; Date/Time: 8/29/08 0945	Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.	
inquished By/Removed From:	Received By/Stored In:		

ABORATORY SECTION	Received By	Title	Date/Time
NAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

000000007

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: Washington Closure Hanford Date: 8/29/08

Project/SAF/SOW/Release #: RC-027

LvLI Batch #: 08081145 Sample Custodian: V. Kennedy

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 799368150566 79274398 0699
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 4.3 4.4	°C	Cooler # ERC-02-406 ERC-03-102
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) 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 LvLI 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 _____

LvLI LIONVILLE LABORATORY INC.

SR-002-B.doc

000000008

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 09/08/08 10:50

RFW Batch Number: 0808L145 Client: WC-HANFORD RC-029 Work Order: 60049001001 Page: 1

	Cust ID:	J178T0	J178T0	J178T0	J178T1	J178T2	J178T3
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	93 %	87 %	92 %	90 %	98 %	91 %
	Decachlorobiphenyl	103 %	109 %	108 %	111 %	108 %	109 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		13 U	93 %	95 %	13 U	13 U	13 U
Aroclor-1221		13 U	13 U	13 U	13 U	13 U	13 U
Aroclor-1232		13 U	13 U	13 U	13 U	13 U	13 U
Aroclor-1242		13 U	13 U	13 U	13 U	13 U	13 U
Aroclor-1248		13 U	13 U	13 U	13 U	13 U	13 U
Aroclor-1254		13 U	13 U	13 U	13 U	13 U	13 U
Aroclor-1260		13 U	143 %	144 %	13 U	13 U	13 U

	Cust ID:	J178T4	J178T5	PBLKUH	PBLKUH BS
Sample Information	RFW#:	005	006	08LE0414-MB1	08LE0414-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	100 %	92 %	76 %	86 %
	Decachlorobiphenyl	118 %	111 %	84 %	100 %
		fl	fl	fl	fl
Aroclor-1016		14 U	15 U	13 U	89 %
Aroclor-1221		14 U	15 U	13 U	13 U
Aroclor-1232		14 U	15 U	13 U	13 U
Aroclor-1242		14 U	15 U	13 U	13 U
Aroclor-1248		14 U	15 U	13 U	13 U
Aroclor-1254		14 U	15 U	13 U	13 U
Aroclor-1260		14 U	15 U	13 U	131 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000000009

Lionville Laboratory, Inc.

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 09/03/08 Extraction Batch No: 08LE0414 Analyst: MF Method: **** SOX3540

Test: OPCB Cleanup Date: 09/04/08 Analyst: MF Client: WC-HANFORD RC-029

LIMS Report Date: 09/04/08 Solvent: DCM/ACETONE,HEXANE Adsorbent: H2SO4

Sample No:	Client Name Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0808L145-	WC-HANFORD RC-029										
001	J178T0		30.0	1.0		10		1.0	N	98.90	337.0
001 -S	J178T0		30.0	1.0	1.0	10		1.0	N	98.90	337.0
001 -T	J178T0		30.0	1.0	1.0	10		1.0	N	98.90	337.0
002	J178T1		30.0	1.0		10		1.0	N	99.20	336.0
003	J178T2		30.0	1.0		10		1.0	N	99.46	335.1
004	J178T3		30.0	1.0		10		1.0	N	99.11	336.3
005	J178T4		30.0	1.0		10		1.0	N	97.28	342.7
006	J178T5		30.0	1.0		10		1.0	N	88.15	378.1
08LE0414-MB1	PBLKUH		30.0	1.0		10		1.0	N	100.00	333.3
08LE0414-MB1 -S	PBLKUH		30.0	1.0	1.0	10		1.0	N	100.00	333.3

Comments:
Surrogate: 250 UL OLM PSURR 89916407
Spike: 250 UL AR1660 89916603

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
[illegible]	[illegible]	9/4/08 1300	SZ	9/4/08 13:00	GC

000000010

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

RECEIVED
SEP 2008

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J178T0	001	S	08LE0414	08/27/08	09/03/08	09/04/08
J178T0	001 MS	S	08LE0414	08/27/08	09/03/08	09/04/08
J178T0	001 MSD	S	08LE0414	08/27/08	09/03/08	09/04/08
J178T1	002	S	08LE0414	08/27/08	09/03/08	09/04/08
J178T2	003	S	08LE0414	08/27/08	09/03/08	09/04/08
J178T3	004	S	08LE0414	08/27/08	09/03/08	09/04/08
J178T4	005	S	08LE0414	08/27/08	09/03/08	09/04/08
J178T5	006	S	08LE0414	08/27/08	09/03/08	09/04/08

LAB QC:

PBLKUH	MB1	S	08LE0414	N/A	09/03/08	09/04/08
PBLKUH	MB1 BS	S	08LE0414	N/A	09/03/08	09/04/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: WC-HANFORD RC-029
LVL #: 0808L145
SDG/SAF # K1310 / RC-029

W.O. #: 60049-001-001-0001-00
Date Received: 08-29-2008

CHLORINATED PESTICIDES

Six (6) soil samples were collected on 08-27-2008.

The samples and their associated QC samples were extracted on 09-03-2008 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 09-04-2008. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8081A.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of the QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. All required holding times for extraction and analysis have been met.
2. The method blank was below the reporting limits for all target compounds.
3. All surrogate recoveries were within acceptance criteria.
4. All blank spike recoveries were within acceptance criteria.
5. All matrix spike recoveries were within acceptance criteria.
6. All samples required a 4-fold instrument dilution due to the matrix. Reporting limits have been adjusted to reflect the necessary dilutions.
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.

r:\group\data\2008\pest\tnu\0808-145cs2.pest.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 11 pages.

LIONVILLE LABORATORY INC.

9. LvLI 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.

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
Laboratory Manager
Lionville Laboratory Incorporated

9/10/08
Date

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.

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.
P	=	This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I 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.
NPM	=	No pattern match for multi-component target analytes.

Lionville Laboratory Use Only

0808L145

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: Washington Closure Hanford RC-029

Est. Final Proj. Sampling Date:

Project#: 60049-001-001-0001-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: O-JOHNSON

Sc: SW846 Del: STD TAT: 15 days

Date Rec'd: 8-29-08 Date Due: 9-13-08

	A	B	C	D	E	F
Refrigerator #	6	2	2	2	2	2
#/Type Container (Liquid / Solid)	16	16	16	16	16	16
Volume	60	250	250	60	120	250
Preservatives	—	—	—	—	—	—
ANALYSES REQUESTED (ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: TTP, IC/A, Metal Hg, CN, TCLP Hgm, Hgl Sp, TOT TPH)						
Lionville Laboratory Use Only	0624H	0625H	0608H OPCB	METO RCRA	ICP6	ODRO

MATRIX CODES: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP Leachate, Wipe, Other, Fish

Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	0624H	0625H	0608H OPCB	METO RCRA	ICP6	ODRO
001	T178TO			Soil	8-27-08	0840	X	X	X	X	X	X
002	1					0905	X	X	X	X	X	X
003	2					0915	X	X	X	X	X	X
004	3					0945	X	X	X	X	X	X
005	4					1005	X	X	X	X	X	X
006	T178T 5			Soil	8/27/08	1006	X	X	X	X	X	X
007	6					1000	X	X		X		

Special Instructions:

FTO = HSL + B, Mo, Si

No TL

Special Instructions:

9-4-08 1. Cancel IPHC add ODRO. Lab report Diesel and motor oil

2. per client

3.

4.

5.

6.

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

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

000000005

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

lector Welch - Koalling	Company Contact Matt Perrott	Telephone No. 372-9088	Project Coordinator KESSNER, JH
Price Code 8C	Data Turnaround 15 Days		
lect Designation Remaining Sites Confirmation Sampling - Soil	Sampling Location 128-H-3		SAF No. RC-029
Chest No. SACWS - 10	Field Logbook No. EL-1601-2	COA C128H31W00	Method of Shipment FedEx
ipped To EBERLINE SERVICES/LIONVILLE	Offsite Property No. A080319		Bill of Lading/Air Bill No. See OSPC

000000006

OSSIBLE SAMPLE HAZARDS/REMARKS

pecial Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					

Sample No.	Matrix *	Sample Date	Sample Time										
78T0	SOIL	8/27/08	0840	X	X	X	X	X	X				
78T1	SOIL	8/27/08	0905	X	X	X	X	X	X				
78T2	SOIL	8/27/08	0915	X	X	X	X	X	X				
78T3	SOIL	8/27/08	0945	X	X	X	X	X	X				
78T4	SOIL	8/27/08	1005	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names		
inquished By/Removed From	Date/Time 8/27/08 1102	Received By/Stored In BHUDSON BHudson	Date/Time 1102 8/27/08
inquished By/Removed From HUDSON BHudson 8/27/08 1810	Date/Time	Received By/Stored In 1060 #3C 8/27/08 1810	Date/Time
inquished By/Removed From 060 #3C 8-28-08	Date/Time 1000	Received By/Stored In Barry Lawrence	Date/Time 1000 8-28-08
inquished By/Removed From arry Lawrence 8-28-08	Date/Time 1000	Received By/Stored In FED EX	Date/Time
inquished By/Removed From FED EX 8/29/08 0945	Date/Time	Received By/Stored In 8/29/08 0945	Date/Time
inquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

TOTAL METALS 6010

(1) Metals by ICP ~~(TCLP) - 1311/6010~~ (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury (TCLP) - 1311/7470 BH 8/27/08

mercury OEJ 8-28-08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

MB

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

ABORATORY SECTION	Received By	Title	Date/Time
NAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

llector Welch-Koelling	Company Contact: Matt Perrott	Telephone No.: 372-9088	Project Coordinator: KESSNER, JH	Price Code: 8C	Data Turnaround: 15 Days
oject Designation: Remaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3		SAF No.: RC-029	
e Chest No.: SAGUS ERC-02-406	Field Logbook No.: EL-1601-2	COA: C128H31W00	Method of Shipment: FedEx	
ipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080319		Bill of Lading/Air Bill No.: SCE OSPC	

000000007

OSSIBLE SAMPLE HAZARDS/REMARKS

pecial Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					

Sample No.	Matrix *	Sample Date	Sample Time										
178T5 ✓	SOIL	8/27/08	~~1005~~ BH 8/27/08 1006	X	X	X	X	X	X				
178T6 ✓	SOIL	8/27/08	1000	X	~~X~~	~~X~~ BH 8/27/08	X	X	~~X~~ BH 8/27/08				
178T7	SOIL												
178T8	SOIL												
178T9	SOIL												

CHAIN OF POSSESSION	Sign/Print Names	
linquished By/Removed From: NI WELCH/KOELLING	Date/Time: 8/27/08 11:02	Received By/Stored In: BILL HUDSON BHudson	Date/Time: 1102 8/27/08
linquished By/Removed From: HUDSON BHudson	Date/Time: 8/27/08 1810	Received By/Stored In: 1060 #3C	Date/Time: 8/27/08 1810
linquished By/Removed From: 060 #3C	Date/Time: 1000 8-28-08	Received By/Stored In: Barry Lawrence	Date/Time: 1000 8-28-08
linquished By/Removed From: Barry Lawrence	Date/Time: 1000 8-28-08	Received By/Stored In: FED EX	Date/Time:
linquished By/Removed From: FED EX	Date/Time: 8/29/08 0945	Received By/Stored In:	Date/Time: 8/29/08 0945
linquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

SPECIAL INSTRUCTIONS

TOTAL METALS 6010 TR

(1) Metals by ICP ~~(TCLP) - 1311/6010~~ (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury (TCLP) - 1311/7470 mercury SW8 8/28-08

BH 8/27/08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

ABORATORY SECTION	Received By	Title	Date/Time
INAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: Washington Closure Hanford Date: 8/29/08

Project/SAP/SOW/Release #: RC-027

LvLI Batch #: 08081145 Sample Custodian: V. Kennedy

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 799368150566 792743980699
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 4.3 4.4	°C	Cooler # ERC-02-406 ERC-03-102
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) 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 LvLI 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 _____

LvLI LIONVILLE LABORATORIES

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 09/08/08 11:18

RFW Batch Number: 0808L145 Client: WC-HANFORD RC-029 Work Order: 60049001001 Page: 1

	Cust ID:	J178T0		J178T0		J178T0		J178T1		J178T2		J178T3	
Sample Information	RFW#:	001		001 MS		001 MSD		002		003		004	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	4.00		4.00		4.00		4.00		4.00		4.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate:	Tetrachloro-m-xylene	128	%	119	%	116	%	112	%	120	%	116	%
	Decachlorobiphenyl	122	%	112	%	108	%	108	%	110	%	104	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		1.3	U	118	%	116	%	1.3	U	1.3	U	1.3	U
gamma-BHC (Lindane)		1.3	U	120	%	117	%	1.3	U	1.3	U	1.3	U
Beta-BHC		1.3	U	122	%	118	%	1.3	U	1.3	U	1.3	U
Heptachlor		1.3	U	127	%	125	%	1.3	U	1.3	U	1.3	U
Delta-BHC		1.3	U	95	%	92	%	1.3	U	1.3	U	1.3	U
Aldrin		1.3	U	125	%	123	%	1.3	U	1.3	U	1.3	U
Heptachlor epoxide		1.3	U	121	%	118	%	1.3	U	1.3	U	1.3	U
gamma-Chlordane		1.3	U	126	%	123	%	1.3	U	1.3	U	1.3	U
Endosulfan I		1.3	U	127	%	124	%	1.3	U	1.3	U	1.3	U
alpha-Chlordane		1.3	U	126	%	122	%	1.3	U	1.3	U	1.3	U
4,4'-DDE		1.3	U	128	%	121	%	1.3	U	1.7	J	1.3	U
Dieldrin		1.3	U	129	%	123	%	1.3	U	1.3	U	1.3	U
Endrin		1.3	U	134	%	129	%	1.3	U	1.3	U	1.3	U
4,4'-DDD		1.3	U	128	%	123	%	1.3	U	1.3	U	1.3	U
Endosulfan II		1.3	U	130	%	124	%	1.3	U	1.3	U	1.3	U
4,4'-DDT		1.3	U	101	%	94	%	1.3	U	1.3	U	1.3	U
Endrin aldehyde		1.3	U	115	%	115	%	1.3	U	1.3	U	1.3	U
Endosulfan sulfate		1.3	U	120	%	115	%	1.3	U	1.3	U	1.3	U
Methoxychlor		1.3	U	124	%	136	%	1.3	U	1.3	U	1.3	U
Endrin ketone		1.3	U	128	%	122	%	1.3	U	1.3	U	1.3	U
Toxaphene		13	U	13	U	13	U	13	U	13	U	13	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

600000000

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 09/08/08 11:18

RFW Batch Number: 0808L145 Client: WC-HANFORD RC-029 Work Order: 60049001001 Page: 2

	Cust ID:	J178T4	J178T5	PBLKUH	PBLKUH BS
Sample Information	RFW#:	005	006	08LE0414-MB1	08LE0414-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL
	D.F.:	4.00	4.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate: Tetrachloro-m-xylene		118 %	116 %	86 %	85 %
Decachlorobiphenyl		110 %	110 %	91 %	92 %
Alpha-BHC		1.4 U	1.5 U	0.33 U	93 %
gamma-BHC (Lindane)		1.4 U	1.5 U	0.33 U	93 %
Beta-BHC		1.4 U	1.5 U	0.33 U	90 %
Heptachlor		1.4 U	1.5 U	0.33 U	96 %
Delta-BHC		1.4 U	1.5 U	0.33 U	75 %
Aldrin		1.4 U	1.5 U	0.33 U	97 %
Heptachlor epoxide		1.4 U	1.5 U	0.33 U	93 %
gamma-Chlordane		1.4 U	1.5 U	0.33 U	101 %
Endosulfan I		1.4 U	1.5 U	0.33 U	100 %
alpha-Chlordane		1.4 U	1.5 U	0.33 U	99 %
4,4'-DDE		1.4 U	1.5 U	0.33 U	104 %
Dieldrin		1.4 U	1.5 U	0.33 U	102 %
Endrin		1.4 U	1.5 U	0.33 U	105 %
4,4'-DDD		1.4 U	1.5 U	0.33 U	106 %
Endosulfan II		1.4 U	1.5 U	0.33 U	104 %
4,4'-DDT		1.4 U	1.5 U	0.33 U	111 %
Endrin aldehyde		1.4 U	1.5 U	0.33 U	89 %
Endosulfan sulfate		1.4 U	1.5 U	0.33 U	98 %
Methoxychlor		1.4 U	1.5 U	0.33 U	114 %
Endrin ketone		1.4 U	1.5 U	0.33 U	103 %
Toxaphene		14 U	15 U	3.3 U	3.3 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000000010

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 09/03/08 Extraction Batch No: 08LE0414 Analyst: MF Method: **** 3040 3540

Test: O608 Cleanup Date: Analyst: Client: WC-HANFORD RC-029

LIMS Report Date: 09/04/08 Solvent: DCM/ACETONE,HEXANE Adsorbent:

Sample No:	Client Name / Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0808L145-	WC-HANFORD RC-029										
001 H	J178T0		30.0	1.0		10		1.0	N	98.90	337.0
001 HS	J178T0		30.0	1.0	1.0	10		1.0	N	98.90	337.0
001 HT	J178T0		30.0	1.0	1.0	10		1.0	N	98.90	337.0
002 H	J178T1		30.0	1.0		10		1.0	N	99.20	336.0
003 H	J178T2		30.0	1.0		10		1.0	N	99.46	335.1
004 H	J178T3		30.0	1.0		10		1.0	N	99.11	336.3
005 H	J178T4		30.0	1.0		10		1.0	N	97.28	342.7
006 H	J178T5		30.0	1.0		10		1.0	N	88.15	378.1
08LE0414-MB1 H	PBLKUH		30.0	1.0		10		1.0	N	100.00	333.3
08LE0414-MB1 HS	PBLKUH		30.0	1.0	1.0	10		1.0	N	100.00	333.3

Comments:
Surrogate: 250 UL OLM PSURR 89916407
Spike: 250 UL FULL LIST PEST SPIKE 89915509

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
all	[signature]	9/4/08 1300	SZ	9/4/08 13:00	GC

000000011

Lionville Laboratory, Inc.
DRO ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

RECEIVED
SEP 2008

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J178T0	001	S	08LE0420	08/27/08	09/05/08	09/10/08
J178T0	001 MS	S	08LE0420	08/27/08	09/05/08	09/10/08
J178T0	001 MSD	S	08LE0420	08/27/08	09/05/08	09/10/08
J178T1	002	S	08LE0420	08/27/08	09/05/08	09/10/08
J178T2	003	S	08LE0420	08/27/08	09/05/08	09/10/08
J178T3	004	S	08LE0420	08/27/08	09/05/08	09/10/08
J178T4	005	S	08LE0420	08/27/08	09/05/08	09/10/08
J178T5	006	S	08LE0420	08/27/08	09/05/08	09/10/08

LAB QC:

BLK	MB1	S	08LE0420	N/A	09/05/08	09/09/08
BLK	MB1 BS	S	08LE0420	N/A	09/05/08	09/09/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: WC-HANFORD RC-029
LVL #: 0808L145
SDG/SAF # K1310 /RC-029

W.O. #: 60049-001-001-0001-00
Date Received: 08-29-2008

DIESEL RANGE ORGANICS

Six (6) soil samples were collected on 08-27-2008.

The samples and their associated QC samples were extracted on 09-05-2008 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 09-09,10-2008. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8015B.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. All required holding times for extraction and analysis have been met.
2. The method blank was below the reporting limits for all target compounds.
3. All obtainable surrogate recoveries were within acceptance criteria.
4. All blank spike recoveries were within acceptance criteria.
5. All matrix spike recoveries were within acceptance criteria.
6. All initial calibrations associated with this data set were within acceptance criteria.
7. 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 13 pages.
r:\group\data\2008\dro\tnu\0808-145cs2.doc

LvLI
LIONVILLE LABORATORY INC.

8. LvLI 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.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

9/15/05
Date

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.

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.
P	=	This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I 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.
[illegible]	=	No pattern match for multi-component target analytes.

Lionville Laboratory, Inc.

DIESEL RANGE ORGANICS BY GC

Report Date: 09/11/08 14:32

RFW Batch Number: **0808L145** Client: **WC-HANFORD RC-029 K1310** Work Order: 60049001001 Page: 1

	Cust ID:	J178T0	J178T0	J178T0	J178T1	J178T2	J178T3
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	p-Terphenyl	99 %	114 %	83 %	115 %	95 %	91 %
Diesel Range Organics		3370 U	77 %	83 %	3360 U	6000	1800 J
Motor Oil Range Organics		10100 U	NS	NS	4400 J	13000	4600 J

	Cust ID:	J178T4	J178T5	BLK	BLK BS
Sample Information	RFW#:	005	006	08LE0420-MB1	08LE0420-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00
	Units:	ug/kg	ug/kg	ug/kg	ug/kg
	p-Terphenyl	91 %	94 %	97 %	70 %
Diesel Range Organics		3430 U	3780 U	3330 U	66 %
Motor Oil Range Organics		10300 U	11300 U	10000 U	NS

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000000005

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 09/05/08 Extraction Batch No: 08LE0420 Analyst: MF Method: ****

Test: ODRO Cleanup Date: Analyst: Client: WC-HANFORD RC-029 K1309

LIMS Report Date: 09/11/08 Solvent: DCM Adsorbent:

000000006

Sample No:	Client Name / Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solid	C/D FACTOR
0808L138-	WC-HANFORD RC-029 K1309										
001	J17FT5		30	1.0		1.0		1.0	N	99.98	33.34
002	J17FT6		30	1.0		1.0		1.0	N	99.17	33.61
002 -S	J17FT6		30	1.0	1.0	1.0		1.0	N	99.17	33.61
002 -T	J17FT6		30	1.0	1.0	1.0		1.0	N	99.17	33.61
003	J17FT7		30	1.0		1.0		1.0	N	97.66	34.13
004	J17FT8		30	1.0		1.0		1.0	N	97.92	34.04
005	J17FT9		30	1.0		1.0		1.0	N	98.84	33.72
006	J17FV0		30	1.0		1.0		1.0	N	98.91	33.70
007	J17FV1		30	1.0		1.0		1.0	N	98.13	33.97
0808L145-	WC-HANFORD RC-029 K1310										
001	J178T0		30	1.0		1.0		1.0	N	98.90	33.70
001 -S	J178T0		30	1.0	1.0	1.0		1.0	N	98.90	33.70
001 -T	J178T0		30	1.0	1.0	1.0		1.0	N	98.90	33.70
002	J178T1		30	1.0		1.0		1.0	N	99.20	33.60
003	J178T2		30	1.0		1.0		1.0	N	99.46	33.51
004	J178T3		30	1.0		1.0		1.0	N	99.11	33.63
005	J178T4		30	1.0		1.0		1.0	N	97.	34.27
006	J178T5		30	1.0		1.0		1.0	N	88.	37.81
0809L021-	WC-HANFORD RC-029										
002	J17FV6		30	1.0		1.0		1.0	N	96.	34.37
002 -S	J17FV6		30	1.0	1.0	1.0		1.0	N	96.	34.37
002 -T	J17FV6		30	1.0	1.0	1.0		1.0	N	96.	34.37
003	J17FV7		30	1.0		1.0		1.0	N	96.	34.37

Comments:
Surrogate: 1.0 ML ODRO SURR 86971906
Spike: 1.0 ML DIESEL SPIKE 86971905

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
			CAC	9/11/08	Revision

SAMPLE EXTRACTION RECORD

Sheet no.: 2

Extract. Date: 09/05/08 Extraction Batch No: 08LE0420 Analyst: MF Method: ****

Test: ODRO Cleanup Date: Analyst: Client: WC-HANFORD RC-029 K1309

LIMS Report Date: 09/11/08 Solvent: DCM Adsorbent:

Sample No:	Client Name / Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solid	C/D FACTOR
0809L021-004	WC-HANFORD RC-029 J17FV8		30	1.0		10.0		1.0	N	92.	361.0
08LE0420-MB1			30	1.0		1.0		1.0	N	100	33.33
08LE0420-MB1 -S			30	1.0	1.0	1.0		1.0	N	100	33.33

Comments:
Surrogate: 1.0 ML ODRO SURR 86971906
Spike: 1.0 ML DIESEL SPIKE 86971905

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer

000000007

Lionville Laboratory, Inc.

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 08/05/09 Extraction Batch No: 08LE0420 Analyst: MF Method: ****SOX3540

Test: ODRO Cleanup Date: Analyst: Client: WC-HANFORD RC-029 K1309

LIMS Report Date: 09/08/08 Solvent: DCM Adsorbent:

Sample No:	Client Name / Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0808L138-	WC-HANFORD RC-029 K1309										
001	J17FT5		30	1.0		1.0		1.0	N	99.98	33.34
002	J17FT6		30	1.0		1.0		1.0	N	99.17	33.61
002 -S	J17FT6		30	1.0	1.0	1.0		1.0	N	99.17	33.61
002 -T	J17FT6		30	1.0	1.0	1.0		1.0	N	99.17	33.61
003	J17FT7		30	1.0		1.0		1.0	N	97.66	34.13
004	J17FT8		30	1.0		1.0		1.0	N	97.92	34.04
005	J17FT9		30	1.0		1.0		1.0	N	98.84	33.72
006	J17FV0		30	1.0		1.0		1.0	N	98.91	33.70
007	J17FV1		30	1.0		1.0		1.0	N	98.13	33.97
0808L145-	WC-HANFORD RC-029 K1310										
001	J178T0		30	1.0		1.0		1.0	N	98.90	33.70
001 -S	J178T0		30	1.0	1.0	1.0		1.0	N	98.90	33.70
001 -T	J178T0		30	1.0	1.0	1.0		1.0	N	98.90	33.70
002	J178T1		30	1.0		1.0		1.0	N	99.20	33.60
003	J178T2		30	1.0		1.0		1.0	N	99.46	33.51
004	J178T3		30	1.0		1.0		1.0	N	99.11	33.63
005	J178T4		30	1.0		1.0		1.0	N	97.28	34.27
006	J178T5		30	1.0		1.0		1.0	N	88.15	37.81
0809L021-	WC-HANFORD RC-029										
002	J17FV6		30	1.0		1.0		1.0	N	96.97	34.37
002 -S	J17FV6		30	1.0	1.0	1.0		1.0	N	96.97	34.37
002 -T	J17FV6		30	1.0	1.0	1.0		1.0	N	96.97	34.37
003	J17FV7		30	1.0		1.0		1.0	N	96.99	34.37

Comments:
Surrogate: 1.0 ML ODRO SURR 86971906
Spike: 1.0 ML DIESEL SPIKE 86971905

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
all	[illegible]	9/8/08 1130	SZ	9/9/08 12:00	GC

000000008

Lionville Laboratory, Inc.

SAMPLE EXTRACTION RECORD

Sheet no.: 2

Extract. Date: 08/05/09 Extraction Batch No: 08LE0420 Analyst: MF Method: **** SOX 3540

Test: ODRO Cleanup Date: Analyst: Client: WC-HANFORD RC-029 K1309

LIMS Report Date: 09/08/08 Solvent: DCM Adsorbent:

Sample No:	Client Name / Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0809L021-	WC-HANFORD RC-029										
004	J17FV8		30	1.0		10.0		1.0	N	92.34	361.0
08LE0420-MB1	BLK		30	1.0		1.0		1.0	N	100.00	33.33
08LE0420-MB1 -S	BLK		30	1.0	1.0	1.0		1.0	N	100.00	33.33

Comments:
Surrogate: 1.0 ML ODRO SURR 86971906
Spike: 1.0 ML DIESEL SPIKE 86971905

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
		9/9/08 1130	SZ	9/9/08 12:00	

600000000

Lionville Laboratory Use Only

0808L 145

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: Washington Closure Hanford RC-029

Est. Final Proj. Sampling Date:

Project#: 60049-001-001-0001-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: O. JOHNSON

SW846 Del STD TAT 15 days

Date Rec'd: 8-29-08 Date Due: 9-13-08

	A	B	C					D			E	F			
Refrigerator #	6	2	2					2			2	2			
#/Type Container (Liquid / Solid)	1G	1G	1G					1G	—		1G	1G			
Volume	60	250	250					60	—		120	250			
Preservatives	—	—	—					—			—	—			
ANALYSES REQUESTED	ORGANIC							INORG							
	VOA	BNA	Pest/PCB	Herb			TPH	TCLP Metals	CN	TOC Hg	Hex Cr	TOT TPH			

MATRIX CODES: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP Leachate, Wipe, Other, Fish

Lionville Laboratory Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624H	0625H 0808H OPCB				TCLP RCRA			ICP6 w/ 9-4-08 EPHC	ODRO		
001	T178TO			Soil	8-27-08	0840	X	X	X				X	8-29-08	X	X	X		
002	1					0905	X	X	X				X		X	X	X		
003	2					0915	X	X	X				X		X	X	X		
004	3					0945	X	X	X				X		X	X	X		
005	4					1005	X	X	X				X		X	X	X		
006	T178T 5			Soil	8-27-08	1006	X	X	X				X		X	X	X		
007	6					1030	X	X					X						

Special Instructions:

TO = HSL + B, Mo, Si

No TL

Special Instructions:

9-4-08 1. Cancel IPHC add ODRO. Lab report Diesel and motor oil

2. per client

3.

4.

5.

6.

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

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

000000010

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-029-046 | Page 1 of 2

llector Welch - Koelling	Company Contact: Matt Perrott	Telephone No.: 372-9088	Project Coordinator: KESSNER, JH
Price Code: 8C	Data Turnaround: 15 Days		
ɔject Designation: Remaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3		SAF No.: RC-029
Chest No.: SAWS - 10	Field Logbook No.: EL-1601-2	COA: C128H31W00	Method of Shipment: FedEx
ipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080319		Bill of Lading/Air Bill No.: See OPC

000000011

POSSIBLE SAMPLE HAZARDS/REMARKS

pecial Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
78T0	SOIL	8/27/08	0840	X	X	X	X	X	X		
78T1	SOIL	8/27/08	0905	X	X	X	X	X	X		
78T2	SOIL	8/27/08	0915	X	X	X	X	X	X		
78T3	SOIL	8/27/08	0945	X	X	X	X	X	X		
78T4	SOIL	8/27/08	1005	X	X	X	X	X	X		

CHAIN OF POSSESSION	Sign/Print Names	
nquished By/Removed From: Welch Koelling	Date/Time: 8/27/08 1102	Received By/Stored In: BHUDSON Bhudson	Date/Time: 1102 8/27/08
nquished By/Removed From: HUDSON Bhudson	Date/Time: 8/27/08 1810	Received By/Stored In: 1060 #3C	Date/Time: 8/27/08 1810
nquished By/Removed From: 60 #3C	Date/Time: 8-28-08 1000	Received By/Stored In: Barry Lawrence	Date/Time: 1000 8-28-08
nquished By/Removed From: Barry Lawrence	Date/Time: 8-28-08 1000	Received By/Stored In: FED EX	Date/Time:
nquished By/Removed From: FED EX	Date/Time: 8/29/08 0945	Received By/Stored In:	Date/Time: 8/29/08 0945
hquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

SPECIAL INSTRUCTIONS

TOTAL METALS 6010

(1) Metals by ICP ~~(TCLP) - 1311/6010~~ (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury (TCLP) - 1311/7470 BH 8/27/08

Mercury OEG 8-28-08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

MB

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

ABORATORY SECTION	Received By	Title	Date/Time
NAL SAMPLE ISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-029-046	Page 2 of 2
lector Welch-Koelling	Company Contact: Matt Perrott; Telephone No.: 372-9088	Project Coordinator: KESSNER, JH	Price Code: 8C; Data Turnaround: 15 Days
lect Designation: Remaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3	SAF No.: RC-029	
Chest No.: SAWS- ERC-02-406	Field Logbook No.: EL-1601-2; COA: C128H31W00	Method of Shipment: FedEx	
pped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080319	Bill of Lading/Air Bill No.: SCE OSPC	

000000012

SSIBLE SAMPLE HAZARDS/REMARKS

ecial Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
'8T5 ✓	SOIL	8/27/08	~~1005~~ 1006	X	X	X	X	X	X		
'8T6 ✓	SOIL	8/27/08	1000	X	~~X~~	~~X~~ BH 8/27/08	X	X	~~X~~ BH 8/27/08		
'8T7	SOIL										
'8T8	SOIL										
'8T9	SOIL										

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Welch-Koelling	8/27/08 11:02	Bill Hudson	8/27/08 1102
Hudson	8/27/08 1810	1060 #3C	8/27/08 1810
1060 #3C	8-28-08 1000	Barry Lawrence	8-28-08 1000
Barry Lawrence	8-28-08 1000	FED EX	
FED EX	8/29/08 0945		8/29/08 0945

SPECIAL INSTRUCTIONS

TOTAL METALS 6010 TR

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

mercury SWB 8-28-08

BH 8/27/08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

BORATORY SECTION	Received By	Title	Date/Time
IAL SAMPLE SPOSITION	Disposal Method	Disposed By	Date/Time

H-EE-011

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: Washington Closure Hanford Date: 8/29/08

Project/SAF/SOW/Release #: RC-029

LvLI Batch #: 08081145 Sample Custodian: V. Kennedy

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 799368150566 79274398 0699
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 4.3° 4.4	°C	Cooler # ERC-02-406 ERC-03-102
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) 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 LvLI 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 _____

LvLI LIONVILLE LABORATORY INC

SR-002-B.doc

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SEP 2008

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J178T0						
SILVER, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
SILVER, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
SILVER, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
ALUMINUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
ALUMINUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
ALUMINUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
ARSENIC, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
ARSENIC, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
ARSENIC, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
BORON, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
BORON, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
BORON, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
BARIUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
BARIUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
BARIUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
BERYLLIUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
BERYLLIUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
BERYLLIUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
CALCIUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
CALCIUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
CALCIUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
CADMIUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
CADMIUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
CADMIUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
COBALT, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
COBALT, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
COBALT, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
CHROMIUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
CHROMIUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
CHROMIUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
COPPER, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
COPPER, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
COPPER, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
IRON, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
IRON, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
MERCURY, TOTAL	001	S	08C0155	08/27/08	09/04/08	09/05/08
MERCURY, TOTAL	001 REP	S	08C0155	08/27/08	09/04/08	09/05/08
MERCURY, TOTAL	001 MS	S	08C0155	08/27/08	09/04/08	09/05/08
POTASSIUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/11/08
POTASSIUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/11/08
POTASSIUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/11/08
MAGNESIUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
MAGNESIUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
MAGNESIUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
MANGANESE, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
MANGANESE, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
MANGANESE, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
MOLYBDENUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
MOLYBDENUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
MOLYBDENUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
SODIUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/11/08
SODIUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/11/08
SODIUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/11/08
NICKEL, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
NICKEL, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
NICKEL, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
LEAD, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
LEAD, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
LEAD, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
ANTIMONY, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
ANTIMONY, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
ANTIMONY, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
SELENIUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
SELENIUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
SELENIUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
SILICON, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
SILICON, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
SILICON, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
VANADIUM, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08
VANADIUM, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
VANADIUM, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
ZINC, TOTAL	001	S	08L0325	08/27/08	09/08/08	09/09/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ZINC, TOTAL	001 REP	S	08L0325	08/27/08	09/08/08	09/09/08
ZINC, TOTAL	001 MS	S	08L0325	08/27/08	09/08/08	09/09/08
J178T1						
SILVER, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
ALUMINUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
ARSENIC, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
BORON, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
BARIUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
BERYLLIUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
CALCIUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
CADMIUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
COBALT, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
CHROMIUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
COPPER, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
IRON, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
MERCURY, TOTAL	002	S	08C0155	08/27/08	09/04/08	09/05/08
POTASSIUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/11/08
MAGNESIUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
MANGANESE, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
MOLYBDENUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
SODIUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/11/08
NICKEL, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
LEAD, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
ANTIMONY, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
SELENIUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
SILICON, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
VANADIUM, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
ZINC, TOTAL	002	S	08L0325	08/27/08	09/08/08	09/09/08
J178T2						
SILVER, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
ALUMINUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
ARSENIC, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
BORON, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
BARIUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BERYLLIUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
CALCIUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
CADMIUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
COBALT, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
CHROMIUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
COPPER, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
IRON, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
MERCURY, TOTAL	003	S	08C0155	08/27/08	09/04/08	09/05/08
POTASSIUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/11/08
MAGNESIUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
MANGANESE, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
MOLYBDENUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
SODIUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/11/08
NICKEL, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
LEAD, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
ANTIMONY, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
SELENIUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
SILICON, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
VANADIUM, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
ZINC, TOTAL	003	S	08L0325	08/27/08	09/08/08	09/09/08
J178T3						
SILVER, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
ALUMINUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
ARSENIC, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
BORON, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
BARIUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
BERYLLIUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
CALCIUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
CADMIUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
COBALT, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
CHROMIUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
COPPER, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
IRON, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
MERCURY, TOTAL	004	S	08C0155	08/27/08	09/04/08	09/05/08
POTASSIUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/11/08
MAGNESIUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MANGANESE, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
MOLYBDENUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
SODIUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/11/08
NICKEL, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
LEAD, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
ANTIMONY, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
SELENIUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
SILICON, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
VANADIUM, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
ZINC, TOTAL	004	S	08L0325	08/27/08	09/08/08	09/09/08
J178T4						
SILVER, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
ALUMINUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
ARSENIC, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
BORON, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
BARIUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
BERYLLIUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
CALCIUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
CADMIUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
COBALT, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
CHROMIUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
COPPER, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
IRON, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
MERCURY, TOTAL	005	S	08C0155	08/27/08	09/04/08	09/05/08
POTASSIUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/11/08
MAGNESIUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
MANGANESE, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
MOLYBDENUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
SODIUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/11/08
NICKEL, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
LEAD, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
ANTIMONY, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
SELENIUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
SILICON, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
VANADIUM, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08
ZINC, TOTAL	005	S	08L0325	08/27/08	09/08/08	09/09/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J178T5						
SILVER, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
ALUMINUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
ARSENIC, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
BORON, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
BARIUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
BERYLLIUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
CALCIUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
CADMIUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
COBALT, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
CHROMIUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
COPPER, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
IRON, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
MERCURY, TOTAL	006	S	08C0155	08/27/08	09/04/08	09/05/08
POTASSIUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/11/08
MAGNESIUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
MANGANESE, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
MOLYBDENUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
SODIUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/11/08
NICKEL, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
LEAD, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
ANTIMONY, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
SELENIUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
SILICON, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
VANADIUM, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
ZINC, TOTAL	006	S	08L0325	08/27/08	09/08/08	09/09/08
J178T6						
SILVER, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
ALUMINUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
ARSENIC, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
BORON, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
BARIUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
BERYLLIUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
CALCIUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CADMIUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
COBALT, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
CHROMIUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
COPPER, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
IRON, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
MERCURY, TOTAL	007	S	08C0155	08/27/08	09/04/08	09/05/08
POTASSIUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/11/08
MAGNESIUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
MANGANESE, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
MOLYBDENUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
SODIUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/11/08
NICKEL, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
LEAD, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
ANTIMONY, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
SELENIUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
SILICON, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
VANADIUM, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08
ZINC, TOTAL	007	S	08L0325	08/27/08	09/08/08	09/09/08

LAB QC:

SILVER LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
SILVER, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
ALUMINUM LABORTORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
ALUMINUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
ARSENIC LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
ARSENIC, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
BORON LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
BORON, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
BARIUM LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
BARIUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
BERYLLIUM LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
BERYLLIUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
CALCIUM LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
CALCIUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
CADMIUM LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
CADMIUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
COBALT LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COBALT, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
CHROMIUM LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
CHROMIUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
COPPER LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
COPPER, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
IRON LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
IRON, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
MERCURY LABORATORY	LC1 BS	S	08C0155	N/A	09/04/08	09/05/08
MERCURY, TOTAL	MB1	S	08C0155	N/A	09/04/08	09/05/08
POTASSIUM LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/11/08
POTASSIUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/11/08
MAGNESIUM LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
MAGNESIUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
MANGANESE LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
MANGANESE, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
MOLYBDENUM LABORATOR	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
MOLYBDENUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
SODIUM LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/11/08
SODIUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/11/08
NICKEL LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
NICKEL, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
LEAD LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
LEAD, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
ANTIMONY LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
ANTIMONY, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
SELENIUM LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
SELENIUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
SILICON LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
SILICON, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
VANADIUM LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
VANADIUM, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08
ZINC LABORATORY	LC1 BS	S	08L0325	N/A	09/08/08	09/09/08
ZINC, TOTAL	MB1	S	08L0325	N/A	09/08/08	09/09/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-029
LVL#: 0808L145
SDG/SAF#: K1310/RC-029

W.O.#: 11343-606-001-9999-00
Date Received: 08-29-08

METALS CASE NARRATIVE

The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvLI) 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 7 soil samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary.

   All samples, with the exception of sample J178T6, were reported with 3-fold dilutions for ICP metals due to sample matrix.

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

4. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury) with the exception of Potassium and Sodium in file TA0909A. The samples were rerun, without dilution, for Potassium and Sodium in file PS0911A

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

6. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation (3-10X the LOD), or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

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

8. All laboratory control samples (LCS) were within the 80-120% control limits with the exception of Silicon at 36.1%. Refer to the Inorganics Laboratory Control Standards Report.

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 30 pages.

Associated sample results may be biased low for Silicon.

9. The matrix spike (MS) recoveries for 4 analytes were outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.

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

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J178T0	Aluminum	60,000	97.3
	Iron	60,000	112.9
	Antimony	300	106.7
	Silicon	3,300	99.9

11. The duplicate analyses for 2 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

12. For the purposes of this report, the data has 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.

13. LvLI 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.

14. 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 Incorporated

9/15/08
Date

jjw/m08-145

LVLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within t

Lot#: 0808L145

Leaching Procedure: __1310 __1311 __1312 __Other:_____

CLP Metals __ Digestion and __ Analysis Methods: __ILM03.0 __ILM04.0

Metals Digestion Methods: __3005A __3010A __3015 __3020A X 3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	X 6010B		__200.7				__99
Antimony	X 6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	X 6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	X 6010B		__200.7				__99
Beryllium	X 6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	X 6010B		__200.7				__99
Cadmium	X 6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	X 6010B		__200.7				__99
Chromium	X 6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	X 6010B		__200.7				__99
Copper	X 6010B	__7211 [5]	__200.7	__220.2			__99
Iron	X 6010B		__200.7				__99
Lead	X 6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	X 6010B		__200.7				__99
Manganese	X 6010B		__200.7				__99
Mercury	__7470A [3]	X 7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	X 6010B		__200.7				__99
Nickel	X 6010B		__200.7				__99
Potassium	X 6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	X 6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	X 6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	X 6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	X 6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B		__200.7				__99
Thallium	W.E. 9/12/08 X 6010B	__7841 [5]	__200.7	__279.2	__200.9		__99
Tin	__6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	__6010B [1]		__200.7 [1]			__1620	__99
Vanadium	X 6010B		__200.7				__99
Zinc	X 6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Method: _____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.

2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/12/08

CLIENT: WC-HANFORD RC-029 K1310

LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J178T0	Silver, Total	0.23 u	MG/KG	0.23	3.0
		Aluminum, Total	5990	MG/KG	9.3	3.0
		Arsenic, Total	4.5	MG/KG	1.2	3.0
		Boron, Total	1.6	MG/KG	1.2	3.0
		Barium, Total	44.5	MG/KG	0.23	3.0
		Beryllium, Total	0.22	MG/KG	0.12	3.0
		Calcium, Total	8550	MG/KG	9.3	3.0
		Cadmium, Total	0.12 u	MG/KG	0.12	3.0
		Cobalt, Total	5.1	MG/KG	0.46	3.0
		Chromium, Total	12.4	MG/KG	0.46	3.0
		Copper, Total	12.5	MG/KG	0.46	3.0
		Iron, Total	14500	MG/KG	10.4	3.0
		Mercury, Total	0.008	MG/KG	0.008	1.0
		Potassium, Total	864	MG/KG	38.0	1.0
		Magnesium, Total	4480	MG/KG	5.8	3.0
		Manganese, Total	254	MG/KG	0.09	3.0
		Molybdenum, Total	0.69 u	MG/KG	0.69	3.0
		Sodium, Total	176	MG/KG	1.5	1.0
		Nickel, Total	11.3	MG/KG	0.46	3.0
		Lead, Total	3.0	MG/KG	0.69	3.0
		Antimony, Total	0.69 u	MG/KG	0.69	3.0
		Selenium, Total	1.4 u	MG/KG	1.4	3.0
		Silicon, Total	222	MG/KG	9.3	3.0
		Vanadium, Total	34.0	MG/KG	0.32	3.0
		Zinc, Total	33.3	MG/KG	1.4	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/12/08

CLIENT: WC-HANFORD RC-029 K1310 LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J178T1	Silver, Total	0.21 u	MG/KG	0.21	3.0
		Aluminum, Total	8540	MG/KG	8.5	3.0
		Arsenic, Total	7.9	MG/KG	1.1	3.0
		Boron, Total	3.1	MG/KG	1.1	3.0
		Barium, Total	72.9	MG/KG	0.21	3.0
		Beryllium, Total	0.34	MG/KG	0.11	3.0
		Calcium, Total	13300	MG/KG	8.5	3.0
		Cadmium, Total	0.11 u	MG/KG	0.11	3.0
		Cobalt, Total	6.5	MG/KG	0.42	3.0
		Chromium, Total	12.9	MG/KG	0.42	3.0
		Copper, Total	15.5	MG/KG	0.42	3.0
		Iron, Total	18600	MG/KG	9.5	3.0
		Mercury, Total	0.04	MG/KG	0.009	1.0
		Potassium, Total	1440	MG/KG	34.7	1.0
		Magnesium, Total	4730	MG/KG	5.3	3.0
		Manganese, Total	319	MG/KG	0.08	3.0
		Molybdenum, Total	0.63 u	MG/KG	0.63	3.0
		Sodium, Total	166	MG/KG	1.4	1.0
		Nickel, Total	12.5	MG/KG	0.42	3.0
		Lead, Total	48.0	MG/KG	0.63	3.0
		Antimony, Total	0.63 u	MG/KG	0.63	3.0
		Selenium, Total	1.3 u	MG/KG	1.3	3.0
		Silicon, Total	152	MG/KG	8.5	3.0
		Vanadium, Total	39.5	MG/KG	0.30	3.0
		Zinc, Total	42.1	MG/KG	1.3	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/12/08

CLIENT: WC-HANFORD RC-029 K1310

LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J178T2	Silver, Total	0.22 u	MG/KG	0.22	3.0
		Aluminum, Total	9750	MG/KG	9.0	3.0
		Arsenic, Total	11.0	MG/KG	1.1	3.0
		Boron, Total	3.7	MG/KG	1.1	3.0
		Barium, Total	81.8	MG/KG	0.22	3.0
		Beryllium, Total	0.36	MG/KG	0.11	3.0
		Calcium, Total	10800	MG/KG	9.0	3.0
		Cadmium, Total	0.11 u	MG/KG	0.11	3.0
		Cobalt, Total	8.2	MG/KG	0.45	3.0
		Chromium, Total	16.9	MG/KG	0.45	3.0
		Copper, Total	19.8	MG/KG	0.45	3.0
		Iron, Total	21700	MG/KG	10.1	3.0
		Mercury, Total	0.02	MG/KG	0.009	1.0
		Potassium, Total	1740	MG/KG	36.9	1.0
		Magnesium, Total	5680	MG/KG	5.6	3.0
		Manganese, Total	360	MG/KG	0.09	3.0
		Molybdenum, Total	0.68 u	MG/KG	0.68	3.0
		Sodium, Total	217	MG/KG	1.5	1.0
		Nickel, Total	15.4	MG/KG	0.45	3.0
		Lead, Total	94.1	MG/KG	0.68	3.0
		Antimony, Total	0.68 u	MG/KG	0.68	3.0
		Selenium, Total	1.4 u	MG/KG	1.4	3.0
		Silicon, Total	175	MG/KG	9.0	3.0
		Vanadium, Total	47.0	MG/KG	0.32	3.0
		Zinc, Total	49.8	MG/KG	1.4	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/12/08

CLIENT: WC-HANFORD RC-029 K1310 LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J178T3	Silver, Total	0.23 u	MG/KG	0.23	3.0
		Aluminum, Total	7410	MG/KG	9.4	3.0
		Arsenic, Total	3.6	MG/KG	1.2	3.0
		Boron, Total	2.1	MG/KG	1.2	3.0
		Barium, Total	71.5	MG/KG	0.23	3.0
		Beryllium, Total	0.32	MG/KG	0.12	3.0
		Calcium, Total	5730	MG/KG	9.4	3.0
		Cadmium, Total	0.12 u	MG/KG	0.12	3.0
		Cobalt, Total	8.4	MG/KG	0.47	3.0
		Chromium, Total	10.3	MG/KG	0.47	3.0
		Copper, Total	15.6	MG/KG	0.47	3.0
		Iron, Total	23600	MG/KG	10.6	3.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	976	MG/KG	38.5	1.0
		Magnesium, Total	4410	MG/KG	5.9	3.0
		Manganese, Total	326	MG/KG	0.09	3.0
		Molybdenum, Total	0.70 u	MG/KG	0.70	3.0
		Sodium, Total	179	MG/KG	1.6	1.0
		Nickel, Total	12.2	MG/KG	0.47	3.0
		Lead, Total	8.5	MG/KG	0.70	3.0
		Antimony, Total	0.70 u	MG/KG	0.70	3.0
		Selenium, Total	1.4 u	MG/KG	1.4	3.0
		Silicon, Total	167	MG/KG	9.4	3.0
		Vanadium, Total	60.5	MG/KG	0.33	3.0
		Zinc, Total	47.7	MG/KG	1.4	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/12/08

CLIENT: WC-HANFORD RC-029 K1310 LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	J178T4	Silver, Total	0.23 u	MG/KG	0.23	3.0
		Aluminum, Total	5170	MG/KG	9.2	3.0
		Arsenic, Total	2.0	MG/KG	1.2	3.0
		Boron, Total	1.6	MG/KG	1.2	3.0
		Barium, Total	51.7	MG/KG	0.23	3.0
		Beryllium, Total	0.20	MG/KG	0.12	3.0
		Calcium, Total	6160	MG/KG	9.2	3.0
		Cadmium, Total	0.12 u	MG/KG	0.12	3.0
		Cobalt, Total	5.8	MG/KG	0.46	3.0
		Chromium, Total	9.3	MG/KG	0.46	3.0
		Copper, Total	11.7	MG/KG	0.46	3.0
		Iron, Total	16400	MG/KG	10.4	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	683	MG/KG	37.8	1.0
		Magnesium, Total	3430	MG/KG	5.8	3.0
		Manganese, Total	258	MG/KG	0.09	3.0
		Molybdenum, Total	0.69 u	MG/KG	0.69	3.0
		Sodium, Total	179	MG/KG	1.5	1.0
		Nickel, Total	9.1	MG/KG	0.46	3.0
		Lead, Total	2.9	MG/KG	0.69	3.0
		Antimony, Total	0.69 u	MG/KG	0.69	3.0
		Selenium, Total	1.4 u	MG/KG	1.4	3.0
		Silicon, Total	128	MG/KG	9.2	3.0
		Vanadium, Total	41.4	MG/KG	0.32	3.0
		Zinc, Total	34.4	MG/KG	1.4	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/12/08

CLIENT: WC-HANFORD RC-029 K1310 LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	J178T5	Silver, Total	0.26 u	MG/KG	0.26	3.0
		Aluminum, Total	6240	MG/KG	10.5	3.0
		Arsenic, Total	3.8	MG/KG	1.3	3.0
		Boron, Total	1.3 u	MG/KG	1.3	3.0
		Barium, Total	59.2	MG/KG	0.26	3.0
		Beryllium, Total	0.30	MG/KG	0.13	3.0
		Calcium, Total	7260	MG/KG	10.5	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	7.0	MG/KG	0.52	3.0
		Chromium, Total	8.5	MG/KG	0.52	3.0
		Copper, Total	15.9	MG/KG	0.52	3.0
		Iron, Total	19200	MG/KG	11.8	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	795	MG/KG	43.0	1.0
		Magnesium, Total	4150	MG/KG	6.5	3.0
		Manganese, Total	280	MG/KG	0.10	3.0
		Molybdenum, Total	0.78 u	MG/KG	0.78	3.0
		Sodium, Total	249	MG/KG	1.7	1.0
		Nickel, Total	9.7	MG/KG	0.52	3.0
		Lead, Total	4.0	MG/KG	0.78	3.0
		Antimony, Total	0.78 u	MG/KG	0.78	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	155	MG/KG	10.5	3.0
		Vanadium, Total	43.8	MG/KG	0.37	3.0
		Zinc, Total	39.2	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/12/08

CLIENT: WC-HANFORD RC-029 K1310 LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	J178T6	Silver, Total	0.07 u	MG/KG	0.07	1.0
		Aluminum, Total	62.7	MG/KG	2.8	1.0
		Arsenic, Total	0.36	MG/KG	0.35	1.0
		Boron, Total	0.35 u	MG/KG	0.35	1.0
		Barium, Total	1.3	MG/KG	0.07	1.0
		Beryllium, Total	0.03 u	MG/KG	0.03	1.0
		Calcium, Total	18.5	MG/KG	2.8	1.0
		Cadmium, Total	0.03 u	MG/KG	0.03	1.0
		Cobalt, Total	0.14 u	MG/KG	0.14	1.0
		Chromium, Total	0.21	MG/KG	0.14	1.0
		Copper, Total	0.14 u	MG/KG	0.14	1.0
		Iron, Total	140	MG/KG	3.1	1.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	34.4 u	MG/KG	34.4	1.0
		Magnesium, Total	10.6	MG/KG	1.7	1.0
		Manganese, Total	3.8	MG/KG	0.03	1.0
		Molybdenum, Total	0.21 u	MG/KG	0.21	1.0
		Sodium, Total	8.9	MG/KG	1.4	1.0
		Nickel, Total	0.14 u	MG/KG	0.14	1.0
		Lead, Total	0.29	MG/KG	0.21	1.0
		Antimony, Total	0.21 u	MG/KG	0.21	1.0
		Selenium, Total	0.42 u	MG/KG	0.42	1.0
		Silicon, Total	46.7	MG/KG	2.8	1.0
		Vanadium, Total	0.1 u	MG/KG	0.1	1.0
		Zinc, Total	0.72	MG/KG	0.42	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 09/12/08

CLIENT: WC-HANFORD RC-029 K1310 LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0325-MB1	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Aluminum, Total	4.0 u	MG/KG	4.0	1.0
		Arsenic, Total	0.50 u	MG/KG	0.50	1.0
		Boron, Total	0.50 u	MG/KG	0.50	1.0
		Barium, Total	0.14	MG/KG	0.10	1.0
		Beryllium, Total	0.05 u	MG/KG	0.05	1.0
		Calcium, Total	5.1	MG/KG	4.0	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Cobalt, Total	0.20 u	MG/KG	0.20	1.0
		Chromium, Total	0.20 u	MG/KG	0.20	1.0
		Copper, Total	0.20 u	MG/KG	0.20	1.0
		Iron, Total	4.5 u	MG/KG	4.5	1.0
		Potassium, Total	49.3 u	MG/KG	49.3	1.0
		Magnesium, Total	3.9	MG/KG	2.5	1.0
		Manganese, Total	0.06	MG/KG	0.04	1.0
		Molybdenum, Total	0.30 u	MG/KG	0.30	1.0
		Sodium, Total	8.2	MG/KG	2.0	1.0
		Nickel, Total	0.20 u	MG/KG	0.20	1.0
		Lead, Total	0.30 u	MG/KG	0.30	1.0
		Antimony, Total	0.30 u	MG/KG	0.30	1.0
		Selenium, Total	0.60 u	MG/KG	0.60	1.0
		Silicon, Total	4.0 u	MG/KG	4.0	1.0
		Vanadium, Total	0.14 u	MG/KG	0.14	1.0
		Zinc, Total	0.60 u	MG/KG	0.60	1.0
BLANK1	08C0155-MB1	Mercury, Total	0.01 u	MG/KG	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 09/12/08

CLIENT: WC-HANFORD RC-029 K1310

LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J178T0	Silver, Total	3.6	0.23u	3.8	94.7	3.0
		Aluminum, Total	6070	5990	153	55.0*	3.0
		Arsenic, Total	149	4.5	153	94.6	3.0
		Boron, Total	70.5	1.6	76.6	89.9	3.0
		Barium, Total	186	44.5	153	92.4	3.0
		Beryllium, Total	3.9	0.22	3.8	96.7	3.0
		Calcium, Total	10100	8550	1920	78.4*	3.0
		Cadmium, Total	4.5	0.12u	3.8	118.4	3.0
		Cobalt, Total	42.1	5.1	38.3	96.6	3.0
		Chromium, Total	26.7	12.4	15.3	93.5	3.0
		Copper, Total	29.7	12.5	19.2	89.6	3.0
		Iron, Total	13900	14500	76.6	-730. *	3.0
		Mercury, Total	0.14	0.008	0.13	107.1	1.0
		Potassium, Total	2510	864	1920	85.8	1.0
		Magnesium, Total	6110	4480	1920	85.0	3.0
		Manganese, Total	283	254	38.3	77.3*	3.0
		Molybdenum, Total	71.8	0.69u	76.6	93.7	3.0
		Sodium, Total	1980	176	1920	94.4	1.0
		Nickel, Total	47.4	11.3	38.3	94.3	3.0
		Lead, Total	39.9	3.0	38.3	96.3	3.0
		Antimony, Total	20.0	0.69u	38.3	52.2	3.0
		Selenium, Total	127	1.4 u	153	83.2	3.0
		Silicon, Total	447	222	76.6	293.1	3.0
		Vanadium, Total	69.3	34.0	38.3	92.2	3.0
		Zinc, Total	69.3	33.3	38.3	94.0	3.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 09/12/08

CLIENT: WC-HANFORD RC-029 K1310 LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J178T0	Silver, Total	0.23u	0.23u	NC	3.0
		Aluminum, Total	5990	6150	2.6	3.0
		Arsenic, Total	4.5	3.9	14.3	3.0
		Boron, Total	1.6	1.3	20.7	3.0
		Barium, Total	44.5	43.5	2.3	3.0
		Beryllium, Total	0.22	0.22	3.3	3.0
		Calcium, Total	8550	8720	1.9	3.0
		Cadmium, Total	0.12u	0.11u	NC	3.0
		Cobalt, Total	5.1	5.4	5.7	3.0
		Chromium, Total	12.4	13.2	6.2	3.0
		Copper, Total	12.5	12.6	0.80	3.0
		Iron, Total	14500	15000	3.7	3.0
		Mercury, Total	0.008	0.01u	~~NC~~	1.0
		Potassium, Total	864	843	2.4	1.0
		Magnesium, Total	4480	4560	1.7	3.0
		Manganese, Total	254	256	0.94	3.0
		Molybdenum, Total	0.69u	0.68u	NC	3.0
		Sodium, Total	176	184	4.6	1.0
		Nickel, Total	11.3	12.0	6.0	3.0
		Lead, Total	3.0	3.5	15.4	3.0
		Antimony, Total	0.69u	0.68u	NC	3.0
		Selenium, Total	1.4 u	1.4 u	NC	3.0
		Silicon, Total	222	213	4.2	3.0
		Vanadium, Total	34.0	35.2	3.5	3.0
		Zinc, Total	33.3	32.9	1.2	3.0

ICD corrected value pw 9/12/08

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 09/12/08

CLIENT: WC-HANFORD RC-029 K1310

LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0325-LC1	Silver, LCS	48.8	50.0	MG/KG	97.6
		Aluminum, LCS	492	500	MG/KG	98.5
		Arsenic, LCS	942	1000	MG/KG	94.2
		Boron, LCS	463	500	MG/KG	92.6
		Barium, LCS	482	500	MG/KG	96.4
		Beryllium, LCS	24.2	25.0	MG/KG	96.8
		Calcium, LCS	2440	2500	MG/KG	97.7
		Cadmium, LCS	23.5	25.0	MG/KG	94.0
		Cobalt, LCS	238	250	MG/KG	95.2
		Chromium, LCS	48.3	50.0	MG/KG	96.6
		Copper, LCS	122	125	MG/KG	97.9
		Iron, LCS	484	500	MG/KG	96.7
		Potassium, LCS	2380	2500	MG/KG	95.3
		Magnesium, LCS	2380	2500	MG/KG	95.3
		Manganese, LCS	73.4	75.0	MG/KG	97.9
		Molybdenum, LCS	476	500	MG/KG	95.2
		Sodium, LCS	2420	2500	MG/KG	96.7
		Nickel, LCS	193	200	MG/KG	96.4
		Lead, LCS	240	250	MG/KG	96.2
		Antimony, LCS	283	300	MG/KG	94.3
		Selenium, LCS	921	1000	MG/KG	92.1
		Silicon, LCS	180	500	MG/KG	36.1
		Vanadium, LCS	241	250	MG/KG	96.4
		Zinc, LCS	96.6	100	MG/KG	96.6
LCS1	08C0155-LC1	Mercury, LCS	5.0	4.7	MG/KG	106.3

ionville Laboratory
ncorporated

MERCURY PREPARATION

Logbook # 498

Analyst: UD
Date 9/4/08
Start Time/Temp: 1335 / 95°
End Time/Temp: 1405 / 93°

Instrument ID H63.1
Balance #: B29 /NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 08C0155
Worksheet: H6-090501
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? __ Yes N/A 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.

LvLI Batch #	Container Number	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
Blank	S			10mL	50mL	
0.2 µg/L	551	0.100				
1.0	OLN	0.500				
2.0	CX	1.000				
5.0	OF	2.500				
10.0	ET	5.000				
ICV	8H	0.125	2.5			
CCV	1C	0.250	5.0			
ICB/CCB	PF					90.50L
MB1	8T			0.30		PBS155 100.0
LC1	5T			0.30		LCSS155
0808L145-001	P18			0.40		R 98.9
001R	H			0.31		
001S	AHA	0.500	1.0	0.40		
002	C15			0.32		99.2
003	PD			0.32		99.4
004	WD			0.40		99.1
005	A27			0.32		97.7
006	154			0.34		88.1
007	B6			0.31		99.9
0808L134-001	CYD			0.35		97.33
001R	522			0.32		
001S	HH	0.500	1.0	0.35		
002	95			0.32		97.75
0808L014-001	G12			0.31		97.89
001R	G7			0.33		
001S	C9	0.500	1.0	0.31		

Standard:	ID	Prep Date/Time
ICAL/MS	R1 6072-78-14A	9/3/08 0930
ICV/CCV/LCS	45 6072-78-15A	

Reviewed By/Date: Andrea Malay 9/9/08

see book # 9368 for std traceability information

Soil LCS =US Metals in soil No.3; True Value = 4.70 mg/Kg
Catalogue #1RM-021, Lot # E021

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

ME-HgCVAA-Prep1007

Page #:

000000024

Lionville Laboratory Incorporated

Logbook #: 78 ✓

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 0820325
Date/Time Initiated: 9/8/08 1200
Date/Time Completed: 9/8/08
Analyst(s): MW
Matrix: (Soil) Water Other: _____
Instr. Type: AA (ICP)
Parameters: See backlog

(Digested) / Undigested (circle one)
Balance #: 620
Balance Cal Verif: (Y) NA
Hot Plate Temp: _____

Method: SW (circle)
3005A
3010A
3015
3020A
7060A (As/Se)
7760A (Ag)
(3050B)
3051
CLP ILMO3.0
ILMO4.0

DW 200.7 (1994)
200.9
3113B
MCAWW 200.7 (1982)
200 (AA)
206.2 (As/Se)
SM 3030C (NC)
Other _____

TMW

COC Batch #	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/So/TC	Texture	Color/Appearance	Artifact	Turb
08082132-001		1.41 gm	100 ml	<2	TO	coarse	brown soil	rocks	
001R		1.39 gm							
001S	1.0 ml	1.41 gm							
002		1.39 gm				fine		plant matter	
003		1.33 gm						rocks	
004		1.37 gm							
005		1.44 gm				coarse		rocks/veg.	
006		1.43 gm						roots	
007		1.37 gm				fine			
008		1.42 gm							
009		1.34 gm							
010		1.39 gm							AAA
011		1.40 gm				coarse			
012		1.37 gm							
013		1.49 gm							
08082145-001		1.31 gm				fine			
001R		1.34 gm							
001S	1.0 ml	1.32 gm							
002		1.43 gm							
003		1.34 gm							
004		1.29 gm				coarse			
005		1.34 gm							
006		1.30 gm							
007		1.43 gm					Ottawa sand		

Spiking IDs:
MS #: 8100-04-01
02
03
6072-78-07
LCS #: 08
09
10
11

Reagent IDs:
HNO_3 G07057
HCL G15040
H_2O_2 G15A18
1:1 HNO_3 9789-083-08
1:1 HCL

File ID#: IC032501
IC032502

LIMS Transfer: (Y) N

Updated

Data Review By/Date:
PMP, 09/09/08

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0325
Date/Time Initiated: 9/8/08 1200
Date/Time Completed: 9/8/08
Analyst(s): MW
Matrix: (Soil) Water Other:
Instr. Type: AA (CP)
Parameters: See Worklist

(Digested) / Undigested (circle one)
Balance #: B20
Balance Cal Verif: (Y) NA
Hot Plate Temp:

Method: SW (circle)

	3005A	DW	200.7 (1994)
	3010A		200.9
	3015		3113B
	3020A		
	7060A (As/Se)	MCAWW	200.7 (1982)
	7760A (Ag)		200 (AA)
			206.2 (As/Se)
	(3050B)		
	3051	SM	3030C (NC)
CLP	ILMO3.0	Other	
	ILMO4.0		

TW

COC Batch #	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/So/ TC	Texture	Color/Appearance	Artifact	Turb
08L0325-MB1		1.0gm	100ml	<2	TO	N/A	boiling chips		
LC1	1.0ml	1.0gm	1	1			1		

MW 9/8/08

Spiking IDs:
MS #: See page 048

LCS #: See page 048

Reagent IDs:
HNO_3
HCL
H_2O_2
1:1 HNO_3
1:1 HCL

File ID#: IC032501 IC032502

LIMS Transfer: (Y) N Uploaded

Data Review By/Date: PMP, 09/09/08

Lionville Laboratory Use Only

0808L 145

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI Lionville Laboratory Inc.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

000000027

Client: Washington Closure Hanford RC-029

Est. Final Proj. Sampling Date:

Project#: 60049-001-001-0001-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: O-JOHNSON

SW846 Del STD TAT 15 days

Date Rec'd 8-29-08 Date Due 9-13-08

	A	B	C					D			E	F			
Refrigerator #	6	2	2					2			2	2			
#/Type Container (Liquid / Solid)	1G	1G	1G					1G	→		1G	1G			
Volume	60	250	250					60	→		120	250			
Preservatives	—	—	—					—			—	—			
ANALYSES REQUESTED	ORGANIC							INORG							
	VOA	BNA	~~Pest/~~ PCB	Herb				~~TCL~~ TC Metal	CN	TCLP Hg	Hexane Fat	TOT TPH			
Lionville Laboratory Use Only	0624H	0625H	0608H OPCB					~~AKFTD~~ RCRA			ICP6	IPHC ODRO			

MATRIX CODES: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP Leachate, Wipe, Other, Fish	Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	0624H	0625H	0608H OPCB				RCRA			ICP6	IPHC ODRO			
	001	T178TO			Soil	8-27-08	0840	X	X	X				X		X	X	X			
	002	1					0905	X	X	X				X	8-29-08	X	X	X			
	003	2					0915	X	X	X				X		X	X	X			
	004	3					0945	X	X	X				X		X	X	X			
	005	4					1005	X	X	X				X		X	X	X			
	006	T178T 5			Soil	8/27/08	1006	X	X	X				X		X	X	X			
	007	6					1000	X	X					X							

Special Instructions:

TO = HSL + B, Mo, Si

No TL

Special Instructions:

9-4-08 1. Cancel IPHC add ODRO. Lab report Diesel and motor oil

2. per client

3.

4.

5.

6.

Relinquished by	Received by	Date	Time

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-029-046	Page 1 of 2
lector Welch – Koelling	Company Contact: Matt Perrott; Telephone No.: 372-9088	Project Coordinator: KESSNER, JH	Price Code: 8C; Data Turnaround: 15 Days
lect Designation: emaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3	SAF No.: RC-029	
Chest No.: SACWS - 10	Field Logbook No.: EL-1601-2; COA: C128H31W00	Method of Shipment: FedEx	
pped To: EBERLINE SERVICES/LIONVILLE	Offsite Property No.: A080319	Bill of Lading/Air Bill No.: See OSPC	

000000028

SSIBLE SAMPLE HAZARDS/REMARKS

ecial Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
'8T0	SOIL	8/27/08	0840	X	X	X	X	X	X		
'8T1	SOIL	8/27/08	0905	X	X	X	X	X	X		
'8T2	SOIL	8/27/08	0915	X	X	X	X	X	X		
'8T3	SOIL	8/27/08	0945	X	X	X	X	X	X		
'8T4	SOIL	8/27/08	1005	X	X	X	X	X	X		

CHAIN OF POSSESSION	Sign/Print Names	
quished By/Removed From: Welch Koelling	Date/Time: 8/27/08 11:02	Received By/Stored In: BHudson BHudson	Date/Time: 1102 8/27/08
quished By/Removed From: HUDSON BHudson	Date/Time: 8/27/08 1810	Received By/Stored In: 1060 #3C	Date/Time: 8/27/08 1810
quished By/Removed From: 60 #3C	Date/Time: 1000 8-28-08	Received By/Stored In: Barry Lawrence	Date/Time: 1000 8-28-08
quished By/Removed From: rry Lawrence	Date/Time: 1000 8-28-08	Received By/Stored In: FED EX	Date/Time:
quished By/Removed From: FED EX	Date/Time: 8/29/08 0945	Received By/Stored In:	Date/Time: 8/29/08 0945
quished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

SPECIAL INSTRUCTIONS

TOTAL METALS 6010

(1) Metals by ICP ~~(TCLP) - 1311/6010~~ [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury (TCLP) - 1311/7470 BH 8/27/08

Mercury OEG 8-28-08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

MB

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

BORATORY SECTION	Received By	Title	Date/Time
NAL SAMPLE ISPOSITION	Disposal Method	Disposed By	Date/Time

H-EE-011

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-029-046 | Page 2 of 2

Collector: Welch-Koelling	Company Contact: Matt Perrott	Telephone No.: 372-9088	Project Coordinator: KESSNER, JH
Price Code: 8C	Data Turnaround: 15 Days		
Project Designation: Remaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3		SAF No.: RC-029
Chest No.: SAWS- ERC-02-406	Field Logbook No.: EL-1601-2	COA: C128H31W00	Method of Shipment: FedEx
Shipped To: EBERLINE SERVICES/ LIONVILLE	Offsite Property No.: A080319		Bill of Lading/Air Bill No.: SCE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
78T5 ✓	SOIL	8/27/08	~~1005~~ 1006	X	X	X	X	X	X		
78T6 ✓	SOIL	8/27/08	1000	X	~~X~~	~~X~~ BH 8/27/08	X	X	~~X~~ BH 8/27/08		
78T7	SOIL										
78T8	SOIL										
78T9	SOIL										

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Welch-Koelling	Date/Time: 8/27/08 11:02	Received By/Stored In: Bill Hudson	Date/Time: 1102
Relinquished By/Removed From: Hudson	Date/Time: 8/27/08 1810	Received By/Stored In: 1060 #3C	Date/Time: 8/27/08 1810
Relinquished By/Removed From: 1060 #3C	Date/Time: 1000 8-28-08	Received By/Stored In: Barry Lawrence	Date/Time: 1000 8-28-08
Relinquished By/Removed From: Barry Lawrence	Date/Time: 1000 8-28-08	Received By/Stored In: FED EX	Date/Time:
Relinquished By/Removed From: FED EX	Date/Time: 8/29/08 0945	Received By/Stored In:	Date/Time: 8/29/08 0945
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

SPECIAL INSTRUCTIONS

TOTAL METALS 6010 TR

(1) Metals by ICP (TCLP) - 1311/6010 [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury (TCLP) - 1311/7470

mercury SWB 8-28-08

BH 8/27/08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

SH-EE-011

000000029

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: Washington Closure Hanford Date: 8/29/08

Project/SAF/SOW/Release #: RC-027

LvLI Batch #: 08081145 Sample Custodian: V. Henry

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 799368150566 792743980699
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 4.3 4.4	°C	Cooler # ERC-02-406 ERC-03-102
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) 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 LvLI 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 _____

LVLI LIONVILLE LABORATORY INC.

RECEIVED
SEP 2008

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J178T0						
% SOLIDS	001	S	08L%S071	08/27/08	09/03/08	09/03/08
% SOLIDS	001 REP	S	08L%S071	08/27/08	09/03/08	09/03/08
CHROMIUM VI	001	S	08LVI061	08/27/08	09/04/08	09/04/08
J178T1						
% SOLIDS	002	S	08L%S071	08/27/08	09/03/08	09/03/08
CHROMIUM VI	002	S	08LVI061	08/27/08	09/04/08	09/04/08
J178T2						
% SOLIDS	003	S	08L%S071	08/27/08	09/03/08	09/03/08
CHROMIUM VI	003	S	08LVI061	08/27/08	09/04/08	09/04/08
J178T3						
% SOLIDS	004	S	08L%S071	08/27/08	09/03/08	09/03/08
CHROMIUM VI	004	S	08LVI061	08/27/08	09/04/08	09/04/08
J178T4						
% SOLIDS	005	S	08L%S071	08/27/08	09/03/08	09/03/08
CHROMIUM VI	005	S	08LVI061	08/27/08	09/04/08	09/04/08
J178T5						
% SOLIDS	006	S	08L%S071	08/27/08	09/03/08	09/03/08
CHROMIUM VI	006	S	08LVI061	08/27/08	09/04/08	09/04/08
CHROMIUM VI	006 REP	S	08LVI061	08/27/08	09/04/08	09/04/08
CHROMIUM VI	006 MS	S	08LVI061	08/27/08	09/04/08	09/04/08
CHROMIUM VI	006 MSD	S	08LVI061	08/27/08	09/04/08	09/04/08
J178T6						
% SOLIDS	007	S	08L%S071	08/27/08	09/03/08	09/03/08

LAB QC:

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-029 K1310

DATE RECEIVED: 08/29/08 LVL LOT # :0808L145

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM VI	MB1	S	08LVI061	N/A	09/04/08	09/04/08
CHROMIUM VI	MB1 BS	S	08LVI061	N/A	09/04/08	09/04/08
CHROMIUM VI	MB1 BSD	S	08LVI061	N/A	09/04/08	09/04/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: WC-HANFORD RC-029 K1310
LVL#: 0808L145

W.O.#: 60049-001-001-0001-00
Date Received: 08-29-08

INORGANIC NARRATIVE

1. This narrative covers the analyses of 7 soil samples.

2. The samples were prepared and analyzed in accordance with the methods checked on the attached glossary.

   LvLI 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. LvLI 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 LvLI's sample acceptance policy.

5. The method blank for Chromium VI was within the method criteria.

6. The Laboratory Control Samples (LCS) for Chromium VI were within the laboratory control limits.

7. The matrix spike recoveries for Chromium VI 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 Incorporated

9/15/08
Date

njp\i08-145

The results presented in this report relate to the analytical testing and conditions of the samples upon 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 13 pages.

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

	ASTM	SW846	OTHER
% Ash	__ D2216-80		
% Moisture	__ D2216-80		__ ILMO4.0 (e)
% Solids	✓ D2216-80		__ ILMO4.0 (e)
% Volatile Solids	__ D2216-80		
ASTM Extraction in Water	__ D3987-81/85		
BTU	__ D240-87		
CEC		__ 9081	__ c
Chromium VI		✓ 3060A/7196A	
Corrosivity ___ by coupon ___ by pH		__ 1110(mod) __ 9045C	
Cyanide, Total		__ 9010B	__ ILMO4.0 (e)
Cyanide, Reactive		__ Section 7.3/9014	
Halides, Extractable Organic		__ 9020B	__ EPA 600/4/84-008
Halides, Total		__ 9020B	__ EPA 600/4/84-008
EP Toxicity		__ 1310A	
Flash Point		__ 1010	
Ignitability		__ 1010	
Oil & Grease		__ 9071A	
Carbon, Total Organic		__ 9060	__ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	__ D240-87(mod)	__ 5050	
Petroleum Hydrocarbons, Total Recoverable		__ 9071	__ EPA 418.1
pH, Soil		__ 9045C	
Sulfide, Reactive		__ Section 7.3/9030B	
Sulfide		__ 9030B(mod)	
Specific Gravity	__ D1429-76C/	__ D5057-90	
Sulfur, Total		__ 9056	
Synthetic Preparation Leach		__ 1312	
Paint Filter		__ 9095A	

Other: **Method:**

Other: **Method**

L-WI-034/B-01/01

Lionville Laboratory Incorporated

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LC = Laboratory Control Sample.
NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).

3. Test Methods for Evaluating Solid Waste (USEPA SW-846).

a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).

b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).

c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).

d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).

e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.

f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/10/08

CLIENT: WC-HANFORD RC-029 K1310 LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J178T0	% Solids	98.9	%	0.01	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
-002	J178T1	% Solids	99.2	%	0.01	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
-003	J178T2	% Solids	99.5	%	0.01	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
-004	J178T3	% Solids	99.1	%	0.01	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
-005	J178T4	% Solids	97.3	%	0.01	1.0
		Chromium VI	0.21 u	MG/KG	0.21	1.0
-006	J178T5	% Solids	88.2	%	0.01	1.0
		Chromium VI	0.23 u	MG/KG	0.23	1.0
-007	J178T6	% Solids	100	%	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 09/10/08

CLIENT: WC-HANFORD RC-029 K1310 LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	08LVI061-MB1	Chromium VI	0.20 u	MG/KG	0.20	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 09/10/08

CLIENT: WC-HANFORD RC-029 K1310 LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-006	J178T5	Soluble Chromium VI	4.6	0.23u	4.5	105.2	1.0
		Insoluble Chromium VI	1620	0.23u	1320	123.4	100
BLANK10	08LVI061-MB1	Soluble Chromium VI	3.8	0.20u	4.0	96.2	1.0
		Insoluble Chromium VI	1450	0.20u	1260	115.1	100

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 09/10/08

CLIENT: WC-HANFORD RC-029 K1310 LVL LOT #: 0808L145

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J178T0	% Solids	98.9	98.8	0.061	1.0
-006REP	J178T5	Chromium VI	0.23u	0.23u	NC	1.0

Lionville Laboratory Use Only

08081 145

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: Washington Closure Hanford RC-029

Est. Final Proj. Sampling Date

Project# 60049-001-001-0001-00

Project Contact/Phone#

Lionville Laboratory Project Manager: O. JOHNSON

PO#: SW846 Del: STD TAT: 15 days

Date Rec'd: 8-29-08 Date Due: 9-13-08

		A	B	C					D			E	F			
Refrigerator #		6	2	2					2			2	2			
#/Type Container	Liquid															
	Solid	1G	1G	1G					1G	—		1G	1G			
Volume		60	250	250					60	—		120	250			
Preservatives		—	—	—					—			—	—			
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				TC Metal Hg	CN	TCLP Hg	Hex Cr	TOT TPH			

Lionville Laboratory Use Only

MATRIX CODES: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, ER/TCLP Leachate, Wipe, Other, Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	06274H	06254H 06208H 0PCB				METHOD RCRA			IRG w 9-4-08 TPHC	ODRO		
	001	T178TO			Soil	8-27-08	0840	X	X	X				X	8-29-08	X	X	X	
	002	1					0905	X	X	X				X		X	X	X	
	003	2					0915	X	X	X				X		X	X	X	
	004	3					0945	X	X	X				X		X	X	X	
	005	4					1005	X	X	X				X		X	X	X	
	006	T178T 5			Soil	8-27-08	1006	X	X	X				X		X	X	X	
	007	6					1000	X	X					X					

Special Instructions:

TO = HSL + B, Mo, Si

No TL

Special Instructions:

9-4-08 1. Cancel TPHC add ODRO. Lab report Diesel and motor oil

2. per client

3.

4.

5.

6.

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time

ORIGINAL REWRITTEN

"COMPOSITE WASTE"

000000010

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-029-046 | Page 1 of 2

lector Welch – Koelling	Company Contact: Matt Perrott	Telephone No.: 372-9088	Project Coordinator: KESSNER, JH
Price Code: 8C	Data Turnaround: 15 Days		
lect Designation: Remaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3		SAF No.: RC-029
Chest No.: SACWS - 10	Field Logbook No.: EL-1601-2	COA: C128H31W00	Method of Shipment: FedEx
pped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080319		Bill of Lading/Air Bill No.: See OSPC

000000011

OSSIBLE SAMPLE HAZARDS/REMARKS

pecial Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
78T0	SOIL	8/27/08	0840	X	X	X	X	X	X		
78T1	SOIL	8/27/08	0905	X	X	X	X	X	X		
78T2	SOIL	8/27/08	0915	X	X	X	X	X	X		
78T3	SOIL	8/27/08	0945	X	X	X	X	X	X		
78T4	SOIL	8/27/08	1005	X	X	X	X	X	X		

CHAIN OF POSSESSION

Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Welch Koelling	8/27/08 1102	BHUDSON BHudson	8/27/08 1102
HUDSON BHudson	8/27/08 1810	1060 #3C	8/27/08 1810
60 #3C	8-28-08 1000	Barry Lawrence	8-28-08 1000
Barry Lawrence	8-28-08 1000	FED EX	
FED EX	8/29/08 0945		8/29/08 0945

SPECIAL INSTRUCTIONS

TOTAL METALS 6010

(1) Metals by ICP ~~(TCLP) - 1311/6010~~ [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury (TCLP) - 1311/7470

BH 8/27/08

mercury OEG 8-28-08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

MB

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

BORATORY SECTION	Received By	Title	Date/Time
NAL SAMPLE ISPOSITION	Disposal Method	Disposed By	Date/Time

H-EE-011

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-029-046 | Page 2 of 2

llector Welch-Koelling	Company Contact: Matt Perrott	Telephone No.: 372-9088	Project Coordinator: KESSNER, JH
Price Code: 8C	Data Turnaround: 15 Days		
ıject Designation: Remaining Sites Confirmation Sampling - Soil	Sampling Location: 128-H-3		SAF No.: RC-029
Chest No.: SAW2- ERC-02-406	Field Logbook No.: EL-1601-2	COA: C128H31W00	Method of Shipment: FedEx
ipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080319		Bill of Lading/Air Bill No.: SCC OSPC

ɔssible Sample Hazards/Remarks

ɔecial Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	G	G/P	aG	aG	G	G					
No. of Container(s)	1	1	1	1	1	1					
Volume	60mL	120mL	250mL	250mL	60mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	PCBs - 8082; Pesticides - 8081	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
78T5 ✓	SOIL	8/27/08	~~1005~~ BH 8/27/08 1006	X	X	X	X	X	X		
78T6 ✓	SOIL	8/27/08	1000	X	~~X~~	~~X~~ BH 8/27/08	X	X	~~X~~ BH 8/27/08		
78T7	SOIL										
78T8	SOIL										
78T9	SOIL										

CHAIN OF POSSESSION	Sign/Print Names	
nquished By/Removed From: Welch-Koelling	Date/Time: 8/27/08 11:02	Received By/Stored In: BILL HUDSON BHudson 8/27/08
Date/Time: 1102		
nquished By/Removed From: HUDSON BHudson 8/27/08 1810	Date/Time	Received By/Stored In: 1060 #3C 8/27/08 1810
Date/Time		
nquished By/Removed From: 060 #3C 8-28-08	Date/Time: 1000	Received By/Stored In: Barry Lawrence 8-28-08
Date/Time: 1000		
nquished By/Removed From: Barry Lawrence 8-28-08	Date/Time: 1000	Received By/Stored In: FED EX
Date/Time		
nquished By/Removed From: FED EX 8/29/08 0945	Date/Time	Received By/Stored In: 8/29/08 0945
Date/Time		
nquished By/Removed From	Date/Time	Received By/Stored In
Date/Time		

SPECIAL INSTRUCTIONS

TOTAL METALS 6010 TR

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

mercury

BH 8/27/08

SWB 8/28-08

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

.BORATORY SECTION	Received By	Title	Date/Time
NAL SAMPLE ISPOSITION	Disposal Method	Disposed By	Date/Time

:H-EE-011

000000012

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: Washington Closure Hanford Date: 8/29/08

Project/SAF/SOW/Release #: RC-027

LvLI Batch #: 08081145 Sample Custodian: V. Hendy

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 799368150566 79274398 0699
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp ~~4.4~~ 4.3	°C	Cooler # ERC-02-406 ERC-03-102
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) 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 LvLI 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 _____

LvLI LIONVILLE LABORATORY INC.

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