0078944

SAF-RC-087
618-7 Burial Ground - Soil
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow	L6-06	KW 10/20/08 Initials/Date
Kathy Wendt	H4-21	KW 10/20/08 Initials/Date

COMMENTS:

SDG K1351 **SAF-RC-087**

Rad only X Chem only Rad & Chem

X Complete Partial

WASTE SITE: 618-7 Burial Ground - Stockpiles

RECEIVED
OCT 2 2 2008
EDMC

LIONVILLE LABORATORY INC.

RECEIVED OCT 2008

15 October 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 #	0809L153
SDG #	K1351
SAF #	RC-087
Date Received	9/23/08
# Samples	3
Matrix	SOIL
Volatiles	
Semivolatiles	
Pest/PCB	
Glycols	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	X
Inorganics	

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
d:\b_ltrs.doc

RECEIVED
OCT 2008

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-087 K1351

DATE RECEIVED: 09/23/08 LVL LOT # :0809L153

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17HF6						
TCLP	001	S	08LT0096	09/17/08	09/24/08	09/25/09
J17HF7						
TCLP	002	S	08LT0096	09/17/08	09/24/08	09/25/09
J17HF8						
TCLP	003	S	08LT0096	09/17/08	09/24/08	09/25/09
J17HF6						
SILVER, TCLP LEACHAT	004	W	08L0354	09/25/09	09/29/08	10/04/08
ARSENIC, TCLP LEACHA	004	W	08L0354	09/25/09	09/29/08	10/04/08
BARIUM, TCLP LEACHAT	004	W	08L0354	09/25/09	09/29/08	10/04/08
CADMIUM, TCLP LEACHA	004	W	08L0354	09/25/09	09/29/08	10/04/08
CHROMIUM, TCLP LEACH	004	W	08L0354	09/25/09	09/29/08	10/04/08
MERCURY, TCLP LEACHA	004	W	08C0172	09/25/09	09/30/08	09/30/08
LEAD, TCLP LEACHATE	004	W	08L0354	09/25/09	09/29/08	10/04/08
SELENIUM, TCLP LEACH	004	W	08L0354	09/25/09	09/29/08	10/04/08
J17HF7						
SILVER, TCLP LEACHAT	005	W	08L0354	09/25/09	09/29/08	10/04/08
SILVER, TCLP LEACHAT	005 REP	W	08L0354	09/25/09	09/29/08	10/04/08
SILVER, TCLP LEACHAT	005 MS	W	08L0354	09/25/09	09/29/08	10/04/08
ARSENIC, TCLP LEACHA	005	W	08L0354	09/25/09	09/29/08	10/04/08
ARSENIC, TCLP LEACHA	005 REP	W	08L0354	09/25/09	09/29/08	10/04/08
ARSENIC, TCLP LEACHA	005 MS	W	08L0354	09/25/09	09/29/08	10/04/08
BARIUM, TCLP LEACHAT	005	W	08L0354	09/25/09	09/29/08	10/04/08
BARIUM, TCLP LEACHAT	005 REP	W	08L0354	09/25/09	09/29/08	10/04/08
BARIUM, TCLP LEACHAT	005 MS	W	08L0354	09/25/09	09/29/08	10/04/08
CADMIUM, TCLP LEACHA	005	W	08L0354	09/25/09	09/29/08	10/04/08
CADMIUM, TCLP LEACHA	005 REP	W	08L0354	09/25/09	09/29/08	10/04/08
CADMIUM, TCLP LEACHA	005 MS	W	08L0354	09/25/09	09/29/08	10/04/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-087 K1351

DATE RECEIVED: 09/23/08 LVL LOT # :0809L153

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM, TCLP LEACH	005	W	08L0354	09/25/09	09/29/08	10/04/08
CHROMIUM, TCLP LEACH	005 REP	W	08L0354	09/25/09	09/29/08	10/04/08
CHROMIUM, TCLP LEACH	005 MS	W	08L0354	09/25/09	09/29/08	10/04/08
MERCURY, TCLP LEACHA	005	W	08C0172	09/25/09	09/30/08	09/30/08
MERCURY, TCLP LEACHA	005 REP	W	08C0172	09/25/09	09/30/08	09/30/08
MERCURY, TCLP LEACHA	005 MS	W	08C0172	09/25/09	09/30/08	09/30/08
LEAD, TCLP LEACHATE	005	W	08L0354	09/25/09	09/29/08	10/04/08
LEAD, TCLP LEACHATE	005 REP	W	08L0354	09/25/09	09/29/08	10/04/08
LEAD, TCLP LEACHATE	005 MS	W	08L0354	09/25/09	09/29/08	10/04/08
SELENIUM, TCLP LEACH	005	W	08L0354	09/25/09	09/29/08	10/04/08
SELENIUM, TCLP LEACH	005 REP	W	08L0354	09/25/09	09/29/08	10/04/08
SELENIUM, TCLP LEACH	005 MS	W	08L0354	09/25/09	09/29/08	10/04/08
J17HF8						
SILVER, TCLP LEACHAT	006	W	08L0354	09/25/09	09/29/08	10/04/08
ARSENIC, TCLP LEACHA	006	W	08L0354	09/25/09	09/29/08	10/04/08
BARIUM, TCLP LEACHAT	006	W	08L0354	09/25/09	09/29/08	10/04/08
CADMIUM, TCLP LEACHA	006	W	08L0354	09/25/09	09/29/08	10/04/08
CHROMIUM, TCLP LEACH	006	W	08L0354	09/25/09	09/29/08	10/04/08
MERCURY, TCLP LEACHA	006	W	08C0172	09/25/09	09/30/08	09/30/08
LEAD, TCLP LEACHATE	006	W	08L0354	09/25/09	09/29/08	10/04/08
SELENIUM, TCLP LEACH	006	W	08L0354	09/25/09	09/29/08	10/04/08

AB QC:

SILVER LABORATORY	LC1 BS	W	08L0354	N/A	09/29/08	10/04/08
SILVER, TCLP LEACHAT	MB1	W	08L0354	N/A	09/29/08	10/04/08
SILVER, TCLP LEACHAT	MB2	W	08L0354	N/A	09/29/08	10/04/08
ARSENIC LABORATORY	LC1 BS	W	08L0354	N/A	09/29/08	10/04/08
ARSENIC, TCLP LEACHA	MB1	W	08L0354	N/A	09/29/08	10/04/08
ARSENIC, TCLP LEACHA	MB2	W	08L0354	N/A	09/29/08	10/04/08
BARIUM LABORATORY	LC1 BS	W	08L0354	N/A	09/29/08	10/04/08
BARIUM, TCLP LEACHAT	MB1	W	08L0354	N/A	09/29/08	10/04/08
BARIUM, TCLP LEACHAT	MB2	W	08L0354	N/A	09/29/08	10/04/08
CADMIUM LABORATORY	LC1 BS	W	08L0354	N/A	09/29/08	10/04/08
CADMIUM, TCLP LEACHA	MB1	W	08L0354	N/A	09/29/08	10/04/08
CADMIUM, TCLP LEACHA	MB2	W	08L0354	N/A	09/29/08	10/04/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-087 K1351

DATE RECEIVED: 09/23/08 LVL LOT # :0809L153

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM LABORATORY	LC1 BS	W	08L0354	N/A	09/29/08	10/04/08
CHROMIUM, TCLP LEACH	MB1	W	08L0354	N/A	09/29/08	10/04/08
CHROMIUM, TCLP LEACH	MB2	W	08L0354	N/A	09/29/08	10/04/08
MERCURY LABORATORY	LC1 BS	W	08C0172	N/A	09/30/08	09/30/08
MERCURY, TOTAL	MB1	W	08C0172	N/A	09/30/08	09/30/08
MERCURY, TCLP LEACHA	MB2	W	08C0172	N/A	09/30/08	09/30/08
MERCURY, TCLP LEACHA	MB3	W	08C0172	N/A	09/30/08	09/30/08
LEAD LABORATORY	LC1 BS	W	08L0354	N/A	09/29/08	10/04/08
LEAD, TCLP LEACHATE	MB1	W	08L0354	N/A	09/29/08	10/04/08
LEAD, TCLP LEACHATE	MB2	W	08L0354	N/A	09/29/08	10/04/08
SELENIUM LABORATORY	LC1 BS	W	08L0354	N/A	09/29/08	10/04/08
SELENIUM, TCLP LEACH	MB1	W	08L0354	N/A	09/29/08	10/04/08
SELENIUM, TCLP LEACH	MB2	W	08L0354	N/A	09/29/08	10/04/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: WC-HANFORD RC-087
LVL#: 0809L153
SDG/SAF#: K1351/RC-087

W.O.#: 60049-001-001-0001-00
Date Received: 09-23-08

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.

1. This narrative covers the analyses of 3 TCLP leachate samples.

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

   Sample J17HF6 was prepped with a 3-fold dilution for Mercury due to insufficient sample volume.

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 the ending CCV in file PS1004A. Samples J17HF7 and J17HF8 were rerun and reported from file PS1004B. All sample results contained in this report were surrounded by QC within control.

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), MB value less than 5% of the RCRA limit, 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. Refer to the Inorganics Laboratory Control Standards Report.

9. The duplicate analyses for 2 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision 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 18 pages.

10. The TCLP extract from sample J17HF7 was selected for the matrix spike (MS) for this analytical batch.

The matrix spike for Silver was below 50% recovery (23.0%). The recovery in the TCLP Leachate was below 80-120% of the action level so standard addition was not required per Federal Register, Vol.57, No.227, Nov. 24, 1992, page 55117.

11. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL).

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.

for Judy Stone

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

10/8/08
Date

alm/m09-153

LVLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

: following methods are used as reference for the digestion and analysis of samples contained within thi

#: 0809L153

ching Procedure: __1310 ✓1311 __1312 __Other:_____

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

tals Digestion Methods: __3005A ✓3010A __3015 __3020A __3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
uminum	__6010B		__200.7				__99
timony	__6010B	__7041 [5]	__200.7	__204.2			__99
senic	✓6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
rium	✓6010B		__200.7				__99
ryllium	__6010B		__200.7				__99
smuth	__6010B [1]		__200.7 [1]			__1620	__99
ron	__6010B		__200.7				__99
dmium	✓6010B	__7131A [5]	__200.7	__213.2			__99
lcium	__6010B		__200.7				__99
romium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
balt	__6010B		__200.7				__99
pper	__6010B	__7211 [5]	__200.7	__220.2			__99
on	__6010B		__200.7				__99
ad	✓6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
thium	__6010B	__7430 [4]	__200.7			__1620	__99
agnesium	__6010B		__200.7				__99
anganese	__6010B		__200.7				__99
ercury	✓7470A [3]	__7471A [3]	__245.1 [2]	__245.5 [2]			__99
olybdenum	__6010B		__200.7				__99
ickel	__6010B		__200.7				__99
otassium	__6010B	__7610 [4]	__200.7	__258.1 [4]			__99
are Earths	__6010B [1]		__200.7 [1]			__1620	__99
elenium	✓6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
licon	__6010B [1]		__200.7			__1620	__99
lica	__6010B		__200.7			__1620	__99
lver	✓6010B	__7761 [5]	__200.7	__272.2			__99
odium	__6010B	__7770 [4]	__200.7	__273.1 [4]			__99
trontium	__6010B		__200.7				__99
hallium	__6010B	__7841 [5]	__200.7	__279.2	__200.9		__99
in	__6010B		__200.7				__99
itanium	__6010B		__200.7				__99
ranium	__6010B [1]		__200.7 [1]			__1620	__99
anadium	__6010B		__200.7				__99
inc	__6010B		__200.7				__99
irconium	__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 10/06/08

CLIENT: WC-HANFORD RC-087 K1351 LVL LOT #: 0809L153

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J17HF6	Silver, TCLP Leachate	4.5	u	UG/L	4.5	1.0
		Arsenic, TCLP Leachate	31.7	u	UG/L	31.7	1.0
		Barium, TCLP Leachate	2440		UG/L	3.1	1.0
		Cadmium, TCLP Leachate	11.7		UG/L	5.6	1.0
		Chromium, TCLP Leachate	78.0		UG/L	4.6	1.0
		Mercury, TCLP Leachate	1.3		UG/L	0.30	3.0
		Lead, TCLP Leachate	35000		UG/L	34.8	1.0
		Selenium, TCLP Leachate	41.3	u	UG/L	41.3	1.0
-005	J17HF7	Silver, TCLP Leachate	8.9		UG/L	4.5	1.0
		Arsenic, TCLP Leachate	31.7	u	UG/L	31.7	1.0
		Barium, TCLP Leachate	906		UG/L	3.1	1.0
		Cadmium, TCLP Leachate	11.0		UG/L	5.6	1.0
		Chromium, TCLP Leachate	30.0		UG/L	4.6	1.0
		Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0
		Lead, TCLP Leachate	395		UG/L	34.8	1.0
		Selenium, TCLP Leachate	41.3	u	UG/L	41.3	1.0
-006	J17HF8	Silver, TCLP Leachate	4.5	u	UG/L	4.5	1.0
		Arsenic, TCLP Leachate	31.7	u	UG/L	31.7	1.0
		Barium, TCLP Leachate	698		UG/L	3.1	1.0
		Cadmium, TCLP Leachate	18.2		UG/L	5.6	1.0
		Chromium, TCLP Leachate	21.3		UG/L	4.6	1.0
		Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0
		Lead, TCLP Leachate	7420		UG/L	34.8	1.0
		Selenium, TCLP Leachate	41.3	u	UG/L	41.3	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 10/06/08

CLIENT: WC-HANFORD RC-087 K1351 LVL LOT #: 0809L153

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0354-MB1	Silver, TCLP Leachate	4.5	u	UG/L	4.5	1.0
		Arsenic, TCLP Leachate	31.7	u	UG/L	31.7	1.0
		Barium, TCLP Leachate	3.3		UG/L	3.1	1.0
		Cadmium, TCLP Leachate	5.6	u	UG/L	5.6	1.0
		Chromium, TCLP Leachate	4.6	u	UG/L	4.6	1.0
		Lead, TCLP Leachate	34.8	u	UG/L	34.8	1.0
		Selenium, TCLP Leachate	41.3	u	UG/L	41.3	1.0
BLANK2	08L0354-MB2	Silver, TCLP Leachate	4.5	u	UG/L	4.5	1.0
		Arsenic, TCLP Leachate	31.7	u	UG/L	31.7	1.0
		Barium, TCLP Leachate	3.1	u	UG/L	3.1	1.0
		Cadmium, TCLP Leachate	5.6	u	UG/L	5.6	1.0
		Chromium, TCLP Leachate	4.6	u	UG/L	4.6	1.0
		Lead, TCLP Leachate	34.8	u	UG/L	34.8	1.0
		Selenium, TCLP Leachate	41.3	u	UG/L	41.3	1.0
BLANK1	08C0172-MB1	Mercury, Total	0.10	u	UG/L	0.10	1.0
BLANK2	08C0172-MB2	Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0
BLANK3	08C0172-MB3	Mercury, TCLP Leachate	0.26		UG/L	0.10	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 10/06/08

CLIENT: WC-HANFORD RC-087 K1351 LVL LOT #: 0809L153

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-005	J17HF7	Silver, TCLP Leachate	1160	8.9	5000	23.0	1.0
		Arsenic, TCLP Leachate	4550	31.7 u	5000	91.1	1.0
		Barium, TCLP Leachate	24600	906	25000	94.8	1.0
		Cadmium, TCLP Leachate	893	11.0	1000	88.2	1.0
		Chromium, TCLP Leachat	4380	30.0	5000	86.9	1.0
		Mercury, TCLP Leachate	198	0.10u	200	98.9	50.0
		Lead, TCLP Leachate	4750	395	5000	87.1	1.0
		Selenium, TCLP Leachat	917	41.3 u	1000	91.7	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 10/06/08

CLIENT: WC-HANFORD RC-087 K1351 LVL LOT #: 0809L153

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-005REP	J17HF7	Silver, TCLP Leachate	8.9	4.5 u	~~NC~~ *200	1.0
		Arsenic, TCLP Leachate	31.7 u	31.7 u	NC	1.0
		Barium, TCLP Leachate	906	905	0.044	1.0
		Cadmium, TCLP Leachate	11.0	10.0	9.5	1.0
		Chromium, TCLP Leachate	30.0	27.4	9.1	1.0
		Mercury, TCLP Leachate	0.10u	0.10u	~~NC~~ *200	1.0
		Lead, TCLP Leachate	395	396	0.35	1.0
		Selenium, TCLP Leachate	41.3 u	41.3 u	NC	1.0

* Corrected RPD
AEM 10/7/08

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 10/06/08

CLIENT: WC-HANFORD RC-087 K1351 LVL LOT #: 0809L153

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0354-LC1	Silver, LCS	492	500	UG/L	98.4
		Arsenic, LCS	10400	10000	UG/L	104.3
		Barium, LCS	4980	5000	UG/L	99.7
		Cadmium, LCS	256	250	UG/L	102.3
		Chromium, LCS	501	500	UG/L	100.2
		Lead, LCS	2620	2500	UG/L	104.7
		Selenium, LCS	10300	10000	UG/L	102.8
LCS1	08C0172-LC1	Mercury, LCS	5.2	5.0	UG/L	104.8

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0354
Date/Time Initiated: 9/29/08 1300
Date/Time Completed: 9/29/08 1830
Analyst(s): MW
Matrix: Soil Water/ Other: TCLP
Instr. Type: AA (ICP)
Parameters: RCRA/RCRA+Sb

(Digested) / Undigested (circle one)
Balance #: N/A
Balance Cal Verif: Y (NA)
Hot Plate Temp: 93°

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

DW 200.7 (1994)
200.9
3113B

MCAWW 200.7 (1982)
200 (AA)
206.2 (As/Se)

SM 3030C (NC)

CLP ILMO3.0
ILMO4.0

Other _____

TW/BSC

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
0809L153-004		100 ml	100 ml	<2	TC	N/A	yellow stain		
005							clear/colorless		
005R									
005S	1.0 ml *								
006									
0809L158-002		50 ml							
002R		2							
002S	1.0 ml *	100 ml							
0809L167-002									
002R									
002S	1.0 ml *								
0809L142-023									
024									
025									
026									
027									
043									
08LT0096-LB1									
082-0354-MB1									
LL1	1.0 ml								
		MW 9/29/08							

Spiking IDs:
MS #: 6072-078-05 (TCLP-1)

LCS #: 6072-78-08
09
10
11

Reagent IDs:
HNO_3 G11022
HCL
H_2O_2
1:1 HNO_3
1:1 HCL 9789-069-03

File ID#: IC035401
LIMS Transfer: (Y) N updated
Data Review By/Date: PMP, 09/29/08

* also 0.25 ml 6072-078-06 (Ba)

...le Laboratory
...orated

MERCURY PREPARATION

Logbook # 498

...: TEB
9/30/08
...e/Temp: 0945 / 94°
...e/Temp: 1145 / 93°

Instrument ID HG-3.1
Balance #: NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 08C0172
Worksheet: HG-093001
SOP No. ME-HgCVAA, Rev. 02

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

NOTE: The Inital/Final Volume for water samples = 33mL, unless otherwise noted.
The Final volume for soil samples = 50mL, unless otherwise noted.

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	L56			33mL	33mL	
0.2 µg/L	M1	0.0667				
1.0	224	0.334				
2.0	AP	0.667				
5.0	WK	1.667				
10.0	R2	3.334				
ICV	700	0.0834	2.5			
CCV	A29	0.167	5.0			
ICB/CCB	AB					
MBI	PT					PBW172
LCI	41	0.167	5.0			LCSW172
0809L153-004	AHA			11mL		lmt'd vol
005	Q2			33mL		
005R	240					
005S	T4	0.667	200			
006	925					
0809L158-002	B2					
002R	N4					
002S	X3	0.667	200			
0809L167-002	NR					
002R	A94					
002S	4B	0.667	200			
0809L142-023	T					
024	224					
025	EMC					
026	C					
027	818					

Standard:	ID	Prep Date/Time
CAL/MS	RI 6072-78-14B	9/30/08 0800
CV/CCV/LCS	US 6072-78-15A	✓

Reviewed By/Date: [signature] 10/7/9

see book # 9368 for std traceability information

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

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

...ville Laboratory
...porated

MERCURY PREPARATION

Logbook # 498

...: Ten
...: 9/30/08
...me/Temp:
...me/Temp: See page 042

Instrument ID HG-3.1
Balance #: (NA)
Pipette Calibration (Daily) Y ✓

Prep Batch: 08C0172
Worksheet: HG093001
SOP No. ME-HgCVAA, Rev. 02

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

NOTE: The Inital/Final Volume for water samples = 33mL, unless otherwise noted.
The Final volume for soil samples = 50mL, unless otherwise noted.

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.
0809L142-029	11A			33mL	33mL	
029R	K					
029S	NJ	0.667	200			
031	Z					
035	RU					
036	SW					
038	V					
039	A7					
040	K9					
041	5H					
042	40					
043	6J					
08LT0095-4B1	K					
08LT0096-2B1	CT					

Ten 9/30/08

Standard:	ID	Prep Date/Time
ICAL/MS		
ICV/CCV/LCS	See page 042	

Reviewed By/Date: [signature] 10/4/08

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 #:

000000015

nville Laboratory Use Only

0809L153

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI LIONVILLE LABORATORY INC.

000000016

nt W.C. Hanford RC-087

Final Proj. Sampling Date

ect# 60049-001-001-0001-00

ect Contact/Phone#

ville Laboratory Project Manager O Johnson

SW846 Del STD TAT 7 Day

Rec'd 9-23-08 Date Due 9-30-08

Refrigerator #													A						
#/Type Container	Liquid												3						
	Solid												IP						
Volume													500						
Preservatives													—						
ANALYSES REQUESTED →		ORGANIC											INORG						
		VOA	BNA	Pest/PCB	Herb								TCLP Metal Hg	CN	LEACHATE				
		Lionville Laboratory Use Only																	
													ITCLP		Met(1)				
Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected													
001	J17HF6			Soil	9-17-08	0820							X						
002	J17HF7					0825							X						
003	J17HF8					0830							X						
004	F6 TCLP of 001				*										X				
005	F7 002														X				
006	F8 003														X				

RIX
ES:
Soil
Sediment
Solid
Sludge
Water
Oil
Air
Drum
Solids
Drum
Liquids
EP/TCLP
Leachate
Wipe
Other
Fish

cial Instructions:

met(1) = RCRATCW

Special Instructions:

1.
2.
3.
4.
5.
6.

* See Lab Chron

Relinquished by	Received by	Date	Time
[illegible]	V. Hernandez	9/23/08	0925

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-087-303 | Page 1 of 1

lector ~~n-Dector~~ P. PEARSON RTC 9/17/08	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: ~~15~~ 7 Days		
iect Designation: 18-7 Burial Ground - Soil	Sampling Location: 618-7 Burial Ground - Stockpiles		SAF No.: RC-087
Chest No.: SAWS-49	Field Logbook No.: EL-1395-13	COA: RG61872600	Method of Shipment: FED EX RTC 9/17/08
onned To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: ~~NA~~ JEB 9-22-08 A080354		Bill of Lading/Air Bill No.: ~~NA~~ JEB 9-22-08 SEE OSPC

OSSIBLE SAMPLE HAZARDS/REMARKS

ntential Radiological and Beryllium contamination

pecial Handling and/or Storage

one

Preservation	None										
Type of Container	P										
No. of Container(s)	1										
Volume	500mL										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										

Sample No.	Matrix *	Sample Date	Sample Time										
7HF6	SOIL	9/17/08	0820	X									NWF-1
7HF7	SOIL	9/17/08	0825	X									NWF-2
7HF8	SOIL	9/17/08	0830	X									NWF-3
~~7HF9~~	~~SOIL~~												

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Paul Pearson	9-17-08 10:00	RT Coffman / RT Coffman	9/17/08 10:00
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
T Coffman / RT Coffman	9/17/08 1210	Rece #1B 1060	9/17/08 1210
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Ser. 18/J.E. Bernhard	9-22-08 0940	J.E. Bernhard	9-22-08 0940
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J.E. Bernhard WCH	9-22-08 1000	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	9-23-08 0925	[illegible]	9-23-08 0925
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

None

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

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

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

CH-EE-011

000000017

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: W.C. Hanford
Project/SAF/SOW/Release #: RC-087

Date: 9/23/08

LvLI Batch #: 0809L153

Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7905 8258 8069
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 3.6°	°C	Cooler # SAWS-49
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.