0077272

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

RECEIVED
MAY 21 2008
EDMC

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow	L6-06	KW 5/15/08 Initials/Date
Kathy Wendt	H4-21	KW 5/15/08 Initials/Date

COMMENTS:

SDG K1202 **SAF-RC-087**

Rad only X Chem only Rad & Chem

X Complete Partial

WASTE SITE: 618-7 Burial Ground/Stockpiles

LIONVILLE LABORATORY INC.

13 May 2008

RECEIVED MAY 2008

Joan Kessner
WC-Hanford
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 #	0804L952
SDG #	K1202
SAF #	RC-087
Date Received	4/18/08
# 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

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

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-087 K1202

RECEIVED MAY 2008

DATE RECEIVED: 04/18/08 LVL LOT # :0804L952

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16MJ2						
TCLP	001	S	08LT0033	04/16/08	04/23/08	04/24/08
J16MJ3						
TCLP	002	S	08LT0033	04/16/08	04/23/08	04/24/08
J16MJ4						
TCLP	003	S	08LT0033	04/16/08	04/23/08	04/24/08
J16MJ2						
SILVER, TCLP LEACHAT	004	W	08L0168	04/24/08	04/25/08	04/25/08
SILVER, TCLP LEACHAT	004 REP	W	08L0168	04/24/08	04/25/08	04/25/08
SILVER, TCLP LEACHAT	004 MS	W	08L0168	04/24/08	04/25/08	04/25/08
ARSENIC, TCLP LEACHA	004	W	08L0168	04/24/08	04/25/08	04/25/08
ARSENIC, TCLP LEACHA	004 REP	W	08L0168	04/24/08	04/25/08	04/25/08
ARSENIC, TCLP LEACHA	004 MS	W	08L0168	04/24/08	04/25/08	04/25/08
BARIUM, TCLP LEACHAT	004	W	08L0168	04/24/08	04/25/08	04/25/08
BARIUM, TCLP LEACHAT	004 REP	W	08L0168	04/24/08	04/25/08	04/25/08
BARIUM, TCLP LEACHAT	004 MS	W	08L0168	04/24/08	04/25/08	04/25/08
CADMIUM, TCLP LEACHA	004	W	08L0168	04/24/08	04/25/08	04/25/08
CADMIUM, TCLP LEACHA	004 REP	W	08L0168	04/24/08	04/25/08	04/25/08
CADMIUM, TCLP LEACHA	004 MS	W	08L0168	04/24/08	04/25/08	04/25/08
CHROMIUM, TCLP LEACH	004	W	08L0168	04/24/08	04/25/08	04/25/08
CHROMIUM, TCLP LEACH	004 REP	W	08L0168	04/24/08	04/25/08	04/25/08
CHROMIUM, TCLP LEACH	004 MS	W	08L0168	04/24/08	04/25/08	04/25/08
MERCURY, TCLP LEACHA	004	W	08C0074	04/24/08	04/24/08	04/25/08
MERCURY, TCLP LEACHA	004 REP	W	08C0074	04/24/08	04/24/08	04/25/08
MERCURY, TCLP LEACHA	004 MS	W	08C0074	04/24/08	04/24/08	04/25/08
LEAD, TCLP LEACHATE	004	W	08L0168	04/24/08	04/25/08	04/25/08
LEAD, TCLP LEACHATE	004 REP	W	08L0168	04/24/08	04/25/08	04/25/08
LEAD, TCLP LEACHATE	004 MS	W	08L0168	04/24/08	04/25/08	04/25/08
SELENIUM, TCLP LEACH	004	W	08L0168	04/24/08	04/25/08	04/25/08
SELENIUM, TCLP LEACH	004 REP	W	08L0168	04/24/08	04/25/08	04/25/08

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

DATE RECEIVED: 04/18/08 LVL LOT # :0804L952

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SELENIUM, TCLP LEACH	004 MS	W	08L0168	04/24/08	04/25/08	04/25/08
J16MJ3						
SILVER, TCLP LEACHAT	005	W	08L0168	04/24/08	04/25/08	04/25/08
ARSENIC, TCLP LEACHA	005	W	08L0168	04/24/08	04/25/08	04/25/08
BARIUM, TCLP LEACHAT	005	W	08L0168	04/24/08	04/25/08	04/25/08
CADMIUM, TCLP LEACHA	005	W	08L0168	04/24/08	04/25/08	04/25/08
CHROMIUM, TCLP LEACH	005	W	08L0168	04/24/08	04/25/08	04/25/08
MERCURY, TCLP LEACHA	005	W	08C0074	04/24/08	04/24/08	04/25/08
LEAD, TCLP LEACHATE	005	W	08L0168	04/24/08	04/25/08	04/25/08
SELENIUM, TCLP LEACH	005	W	08L0168	04/24/08	04/25/08	04/25/08
J16MJ4						
SILVER, TCLP LEACHAT	006	W	08L0168	04/24/08	04/25/08	04/25/08
ARSENIC, TCLP LEACHA	006	W	08L0168	04/24/08	04/25/08	04/25/08
BARIUM, TCLP LEACHAT	006	W	08L0168	04/24/08	04/25/08	04/25/08
CADMIUM, TCLP LEACHA	006	W	08L0168	04/24/08	04/25/08	04/25/08
CHROMIUM, TCLP LEACH	006	W	08L0168	04/24/08	04/25/08	04/25/08
MERCURY, TCLP LEACHA	006	W	08C0074	04/24/08	04/24/08	04/25/08
LEAD, TCLP LEACHATE	006	W	08L0168	04/24/08	04/25/08	04/25/08
SELENIUM, TCLP LEACH	006	W	08L0168	04/24/08	04/25/08	04/25/08

LAB QC:

SILVER LABORATORY	LC1 BS	W	08L0168	N/A	04/25/08	04/25/08
SILVER, TCLP LEACHAT	MB1	W	08L0168	N/A	04/25/08	04/25/08
SILVER, TCLP LEACHAT	MB2	W	08L0168	N/A	04/25/08	04/25/08
ARSENIC LABORATORY	LC1 BS	W	08L0168	N/A	04/25/08	04/25/08
ARSENIC, TCLP LEACHA	MB1	W	08L0168	N/A	04/25/08	04/25/08
ARSENIC, TCLP LEACHA	MB2	W	08L0168	N/A	04/25/08	04/25/08
BARIUM LABORATORY	LC1 BS	W	08L0168	N/A	04/25/08	04/25/08
BARIUM, TCLP LEACHAT	MB1	W	08L0168	N/A	04/25/08	04/25/08
BARIUM, TCLP LEACHAT	MB2	W	08L0168	N/A	04/25/08	04/25/08
CADMIUM LABORATORY	LC1 BS	W	08L0168	N/A	04/25/08	04/25/08
CADMIUM, TCLP LEACHA	MB1	W	08L0168	N/A	04/25/08	04/25/08
CADMIUM, TCLP LEACHA	MB2	W	08L0168	N/A	04/25/08	04/25/08

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

DATE RECEIVED: 04/18/08 LVL LOT # :0804L952

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM LABORATORY	LC1 BS	W	08L0168	N/A	04/25/08	04/25/08
CHROMIUM, TCLP LEACH	MB1	W	08L0168	N/A	04/25/08	04/25/08
CHROMIUM, TCLP LEACH	MB2	W	08L0168	N/A	04/25/08	04/25/08
MERCURY LABORATORY	LC1 BS	W	08C0074	N/A	04/24/08	04/25/08
MERCURY, TOTAL	MB1	W	08C0074	N/A	04/24/08	04/25/08
MERCURY, TCLP LEACHA	MB2	W	08C0074	N/A	04/24/08	04/25/08
LEAD LABORATORY	LC1 BS	W	08L0168	N/A	04/25/08	04/25/08
LEAD, TCLP LEACHATE	MB1	W	08L0168	N/A	04/25/08	04/25/08
LEAD, TCLP LEACHATE	MB2	W	08L0168	N/A	04/25/08	04/25/08
SELENIUM LABORATORY	LC1 BS	W	08L0168	N/A	04/25/08	04/25/08
SELENIUM, TCLP LEACH	MB1	W	08L0168	N/A	04/25/08	04/25/08
SELENIUM, TCLP LEACH	MB2	W	08L0168	N/A	04/25/08	04/25/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-087
LVL#: 0804L952
SDG/SAF#: K1202/RC-087

W.O.#: 11343-606-001-9999-00
Date Received: 04-18-08

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 leachates.

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

   All Samples for ICP metals were run at a 6-fold dilution due to sample matrix.

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

4. Please refer to the Sample Receipt Check List for sample discrepancies in LvLI's sample acceptance policy.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).

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

7. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation (3-10X the LOD), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

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

9. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the

10. The duplicate analysis for all analytes were within 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 020 pages.

11. The TCLP extract from sample J16MJ2 was selected for the matrix spike (MS) for this analytical batch.

12. The MS recoveries for all analytes in the TCLP extract were above 50%.

13. 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.

14. 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.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

5/7/08
Date

alm/m04-952

LVLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

ɔe following methods are used as reference for the digestion and analysis of samples contained within th

ɔt#: 08041952

eaching Procedure: __1310 __1311 __1312 __Other:_____

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

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

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
luminum	__6010B		__200.7				__99
ntimony	__6010B	__7041 [5]	__200.7	__204.2			__99
rsenic	✓6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
arium	✓6010B		__200.7				__99
eryllium	__6010B		__200.7				__99
ismuth	__6010B [1]		__200.7 [1]			__1620	__99
oron	__6010B		__200.7				__99
admium	✓6010B	__7131A [5]	__200.7	__213.2			__99
alcium	__6010B		__200.7				__99
hromium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
obalt	__6010B		__200.7				__99
opper	__6010B	__7211 [5]	__200.7	__220.2			__99
on	__6010B		__200.7				__99
ead	✓6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
ithium	__6010B	__7430 [4]	__200.7			__1620	__99
lagnesium	__6010B		__200.7				__99
langanese	__6010B		__200.7				__99
lercury	✓7470A [3]	__7471A [3]	__245.1 [2]	__245.5 [2]			__99
lolybdenum	__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
ilicon	__6010B [1]		__200.7			__1620	__99
ilica	__6010B		__200.7			__1620	__99
ilver	✓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

ɔther:_____ 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 05/02/08

CLIENT: TNU-HANFORD RC-087 LVL LOT #: 0804L952

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J16MJ2	Silver, TCLP Leachate	6.0	u	UG/L	6.0	6.0
		Arsenic, TCLP Leachate	30.0	u	UG/L	30.0	6.0
		Barium, TCLP Leachate	566		UG/L	6.0	6.0
		Cadmium, TCLP Leachate	65.3		UG/L	3.0	6.0
		Chromium, TCLP Leachate	77.0		UG/L	12.0	6.0
		Mercury, TCLP Leachate	0.08		UG/L	0.06	1.0
		Lead, TCLP Leachate	17900		UG/L	18.0	6.0
		Selenium, TCLP Leachate	36.0	u	UG/L	36.0	6.0
-005	J16MJ3	Silver, TCLP Leachate	6.0	u	UG/L	6.0	6.0
		Arsenic, TCLP Leachate	30.0	u	UG/L	30.0	6.0
		Barium, TCLP Leachate	712		UG/L	6.0	6.0
		Cadmium, TCLP Leachate	14.8		UG/L	3.0	6.0
		Chromium, TCLP Leachate	23.1		UG/L	12.0	6.0
		Mercury, TCLP Leachate	0.06	u	UG/L	0.06	1.0
		Lead, TCLP Leachate	30600		UG/L	18.0	6.0
		Selenium, TCLP Leachate	36.0	u	UG/L	36.0	6.0
-006	J16MJ4	Silver, TCLP Leachate	6.0	u	UG/L	6.0	6.0
		Arsenic, TCLP Leachate	30.0	u	UG/L	30.0	6.0
		Barium, TCLP Leachate	633		UG/L	6.0	6.0
		Cadmium, TCLP Leachate	7.3		UG/L	3.0	6.0
		Chromium, TCLP Leachate	14.9		UG/L	12.0	6.0
		Mercury, TCLP Leachate	0.06	u	UG/L	0.06	1.0
		Lead, TCLP Leachate	6860		UG/L	18.0	6.0
		Selenium, TCLP Leachate	36.0	u	UG/L	36.0	6.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/02/08

CLIENT: TNU-HANFORD RC-087 LVL LOT #: 0804L952

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0168-MB1	Silver, TCLP Leachate	1.0	u	UG/L	1.0	1.0
		Arsenic, TCLP Leachate	5.0	u	UG/L	5.0	1.0
		Barium, TCLP Leachate	1.0	u	UG/L	1.0	1.0
		Cadmium, TCLP Leachate	0.50	u	UG/L	0.50	1.0
		Chromium, TCLP Leachate	2.0	u	UG/L	2.0	1.0
		Lead, TCLP Leachate	3.0	u	UG/L	3.0	1.0
		Selenium, TCLP Leachate	6.0	u	UG/L	6.0	1.0
BLANK2	08L0168-MB2	Silver, TCLP Leachate	6.0	u	UG/L	6.0	6.0
		Arsenic, TCLP Leachate	30.0	u	UG/L	30.0	6.0
		Barium, TCLP Leachate	6.0	u	UG/L	6.0	6.0
		Cadmium, TCLP Leachate	3.0	u	UG/L	3.0	6.0
		Chromium, TCLP Leachate	12.0	u	UG/L	12.0	6.0
		Lead, TCLP Leachate	18.0	u	UG/L	18.0	6.0
		Selenium, TCLP Leachate	36.0	u	UG/L	36.0	6.0
BLANK1	08C0074-MB1	Mercury, Total	0.06	u	UG/L	0.06	1.0
BLANK2	08C0074-MB2	Mercury, TCLP Leachate	0.06	u	UG/L	0.06	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 05/02/08

CLIENT: TNU-HANFORD RC-087 LVL LOT #: 0804L952

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-004	J16MJ2	Silver, TCLP Leachate	4900	6.0 u	5000	98.1	6.0
		Arsenic, TCLP Leachate	5110	30.0 u	5000	102.2	6.0
		Barium, TCLP Leachate	102000	566	100000	101.5	6.0
		Cadmium, TCLP Leachate	1080	65.3	1000	101.9	6.0
		Chromium, TCLP Leachat	5170	77.0	5000	101.8	6.0
		Mercury, TCLP Leachate	195	0.08	200	97.5	50.0
		Lead, TCLP Leachate	23700	17900	5000	116.3	6.0
		Selenium, TCLP Leachat	1040	36.0 u	1000	104.0	6.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 05/02/08

CLIENT: TNU-HANFORD RC-087 LVL LOT #: 0804L952

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-004REP	J16MJ2	Silver, TCLP Leachate	6.0 u	6.0 u	NC	6.0
		Arsenic, TCLP Leachate	30.0 u	30.0 u	NC	6.0
		Barium, TCLP Leachate	566	607	7.0	6.0
		Cadmium, TCLP Leachate	65.3	69.9	6.8	6.0
		Chromium, TCLP Leachate	77.0	78.4	1.8	6.0
		Mercury, TCLP Leachate	0.08	0.08	2.4	1.0
		Lead, TCLP Leachate	17900	18800	5.0	6.0
		Selenium, TCLP Leachate	36.0 u	36.0 u	NC	6.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 05/02/08

CLIENT: TNU-HANFORD RC-087 LVL LOT #: 0804L952

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0168-LC1	Silver, LCS	499	500	UG/L	99.8
		Arsenic, LCS	9640	10000	UG/L	96.4
		Barium, LCS	5010	5000	UG/L	100.3
		Cadmium, LCS	246	250	UG/L	98.5
		Chromium, LCS	504	500	UG/L	100.8
		Lead, LCS	2490	2500	UG/L	99.5
		Selenium, LCS	9550	10000	UG/L	95.5
LCS1	08C0074-LC1	Mercury, LCS	5.1	5.0	UG/L	102.0

Lionville Laboratory Incorporated Logbook #: 440

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0168
Date/Time Initiated: 4/25/08 1050
Date/Time Completed: 4/25/08 1410
Analyst(s): Ten
Matrix: Soil Water Other:
Instr. Type: AA CP
Parameters: See backlog

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

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

BB/TNL

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
0804L870-005		100mL	100mL	<2	TCLP	NA	clear	NA	NA
006									
006S							clear/yellow		
006T	* 1.0						clear		
007	* 1.0								
0804L952-004									
004R									
004S	1.0								
005									
006									
08LT0033-LB1									
08L0168-MB1									
08L0168-LC1	1.0								

DLD 4/25/08

Spiking IDs:
MS #: * 6072-73-05 (0.1mL)
1 78-06
4TS
* Cd 6072-73-011 (0.1mL)
* Se 6072-79-006 (0.1mL)
LCS #: 6072-78-07 08
TE 08 09
0 10
5/25/08 11

Reagent IDs:
HNO_3 E46025
HCL
H_2O_2
1:1 HNO_3
1:1 HCL 6072-069-03

File ID#: IC016801
LIMS Transfer: Y N Updated
Data Review By/Date: PMP, 04/26/08

ncorporated

Logbook # 422

nalyst: CEO
ate 4/24/08
art Time/Temp: 0955 / 95 (4/25/08)
nd Time/Temp: 1155 / 96°

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

Prep Batch: 08C0074
Worksheet: HG042501
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	NR			33mL	33mL	used 2x KMnO4
0.2 ug/L	GR	0.0667				
1.0	JI	0.334				
2.0	PC	0.667				
5.0	95	1.667				
10.0	3H	3.334				
ICV	P18	0.0834	2.5			
CCV	857	0.167	5.0			
ICB/CCB	UT					
MBI	PI					PBW174
LCI	TR	0.167	5.0			LCSW174
0804L963-001	CYD			~~3.3~~ 0.33 mL		did not hold color &
002	5T			3.3 mL		limit'd vol.
002R	71L					
002S	S	0.334	1.0			
0804L975-004	81G			33mL		
009	F8					
016	154					
016R	L53					
016S	WK	0.334	1.0			
016T	A1	0.334	1.0			
017	Cm					
0804L981-001	CB2					
001R	55					
001S	PT	0.334	1.0			
8042959-001	P18					
001R	X8					

d:	ID	Prep Date/Time
S	RI 6072-78-14B	4/24/08 1350
//LCS	US 6072-78-15A	

Reviewed By/Date: [signature] 4/30/08

see book # 9368 for std traceability information

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

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

VAA-Prep1007

*Adj. pH to ~~x~~ 2 in tube per pm TEIEN 4/24/08

Page #:

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ıville Laboratory
rporated

MERCURY PREPARATION

Logbook # 422

'st: UP
4/24/08
Time/Temp:
Time/Temp: See page 084

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

Prep Batch: 08L007 ~~3~~4 TC 4/24/08
Worksheet: HG042501
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.
804L959-001S	A901	0.334	1.0	33 mL	33mL	
002	TC 4/24/08 5GH5			33 mL ~~76.5 mL~~ **		
804L952-004	JS					
004R	I4					
004S	700	0.667	200			
005	503					
006	BLV					
04L870-005	AP					
006	N60					
006S	76	0.667	200			
006T	411	0.667	200			
007	R					
08LT0033-LB1	IC					

TC 4/24/08

	ID	Prep Date/Time
CS	See page 084	

Reviewed By/Date: [signature] 4/30/08

see book # 9368 for std traceability information

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

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

A-Prep1007

** did not hold color, repoured to 33mL b/c used 2x KMnO4
TC 4/25/08

Page #:

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nville Laboratory Use Only

804L952

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

nt TNU HANFORD SAFH RC-087

Final Proj. Sampling Date

ect# 11343-606-001-9999-00

ect Contact/Phone#

ville Laboratory Project Manager O Johnson

SW846 Del STD TAT 7 days

Rec'd 4-18-08 Date Due 4-25-08

Refrigerator #													A 3						
#/Type Container	Liquid																		
	Solid												1P						
Volume													500						
Preservatives													–						
ANALYSES REQUESTED →		ORGANIC											INORG						
		VOA	BNA	Pest/PCB	Herb								TCLP Metal Hg	CN	LEACHATE				
		Lionville Laboratory Use Only																	
													ITCLP		Met①				
001	J16MJ2			Soil	4-16-08	0800							X						
002	3					0810							X						
003	4					0820							X						
004	2 TCLP of 001			L	*										X				
005	3 002														X				
006	4 003														X				

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

cial Instructions:

met① = RCRA

Special Instructions:

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

* See lab chron

Relinquished by	Received by	Date	Time
[signature]	[signature]	4/18/08	0950

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE	

000000016

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-116	Page 1 of 1

llector B Lawrence, E. Harries	Company Contact Joan Kessner Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8F Data Turnaround ~~15~~ 7 Days KC 4-15-08
oject Designation 618-7 Burial Ground - Soil	Sampling Location 618-7 Burial Ground/Stockpiles	SAF No. RC-087	
Chest No.	Field Logbook No. EL-1395-12 COA RG61872600	Method of Shipment Fed Ex	
ipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080237	Bill of Lading/Air Bill No. See OSPC	

OSSIBLE SAMPLE HAZARDS/REMARKS

otential 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										
6MJ2	SOIL	4/16/08	0800	X								Seg.#	I-005
6MJ3	SOIL	4/16/08	0810	X								"	I-006
6MJ4	SOIL	4/16/08	0820	X								"	I-007
~~6MJ5~~	~~SOIL~~												
~~6MJ6~~	~~SOIL~~												

CHAIN OF POSSESSION	Sign/Print Names	
linquished By/Removed From: . Harries / E. Harries — Date/Time: 0905 4/16/08	Received By/Stored In: RT Coffman / RT Coffman — Date/Time: 0905 4/16/08	
linquished By/Removed From: T Coffman / RT Coffman — Date/Time: 1145 4/16/08	Received By/Stored In: Refer #1A, 1060 BLD — Date/Time: 1145 4/16/08	
linquished By/Removed From: 060/1A — Date/Time: 4/17/08 0900	Received By/Stored In: MS Stankovich — Date/Time: 0900 4/17/08	
linquished By/Removed From: WCH MS Stankovich — Date/Time: 1500 4/17/08	Received By/Stored In: Fed Ex — Date/Time:	
linquished By/Removed From: Fed Ex — Date/Time: 4-18-08 0950	Received By/Stored In: [signature] — Date/Time: 4-18-08 0950	
linquished 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

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

CH-EE-011

000000017

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-097	Page 1 of 1

Collector B Lawrence, E. Harries	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Project Designation 618-7 Burial Ground - Soil	Sampling Location 618-7 Burial Ground/Stockpiles		SAF No. RC-087
Ice Chest No.	Field Logbook No. EL-1395-12	COA RG61872600	Method of Shipment Government Vehicle
Shipped To Radiological Counting Facility	Offsite Property No. NA		Bill of Lading/Air Bill No. NA

Price Code: 2A

Data Turnaround: 24 Hours

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

Preservation	None
Type of Container	P
No. of Container(s)	1
Volume	60mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	RCF OEA Shipping Screen									
J16M86	SOIL	4/16/08	0800	X		19466						SEG II	I-005
J16M87	SOIL	4/16/08	0810	X		19467						"	I-006
J16M88	SOIL	4/16/08	0820	X		19468						"	I-007
~~J16M89~~	~~SOIL~~												

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
E. Harries / E. Harries	0905 4/16/08	RJ Coffman / RJ Coffman	0905 4/16/08
RJ Coffman / RJ Coffman	1030 4/16/08	DMiller / Deb Miller	1030 4-16-08

SPECIAL INSTRUCTIONS

None

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	Disposal By	Date/Time

COPY

WCH-EE-011

RCF 19466

000000018

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-097

Collector B Lawrence, E. Harries	**Company Contact** Joan Kessner	**Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH
Price Code 2A	**Data Turnaround** 24 Hours		
Project Designation 618-7 Burial Ground - Soil	**Sampling Location** 618-7 Burial Ground/Stockpiles		**SAF No.** RC-087
Ice Chest No.	**Field Logbook No.** EL-1395-12	**COA** RG61872600	**Method of Shipment** Government Vehicle
Shipped To Radiological Counting Facility	**Offsite Property No.** NA		**Bill of Lading/Air Bill No.** NA

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

Special Handling and/or Storage

None

Preservation	None											
Type of Container	P											
No. of Container(s)	1											
Volume	60mL											
SAMPLE ANALYSIS	RCF OEA Shipping Screen											
Sample No.	**Matrix ***	**Sample Date**	**Sample Time**									
J16M86	SOIL	4/16/08	0800	X		19466					SEG II	I-005
J16M87	SOIL	4/16/08	0810	X		19467					"	I-006
J16M88	SOIL	4/16/08	0820	X		19468					"	I-007
~~J16M89~~	~~SOIL~~											

CHAIN OF POSSESSION	**Sign/Print Names**	
Relinquished By/Removed From: E. Harris / E. Harris, Date/Time 0905 4/16/08	Received By/Stored In: RJ Coffman / RJ Coffman, Date/Time 0905 4/16/08	
Relinquished By/Removed From: RJ Coffman / RJ Coffman, Date/Time 1030 4/16/08	Received By/Stored In: DMiller / Deb Miller, Date/Time 1030 4-16-08	
Relinquished By/Removed From: Date/Time	Received By/Stored In: Date/Time	
Relinquished By/Removed From: Date/Time	Received By/Stored In: Date/Time	
Relinquished By/Removed From: Date/Time	Received By/Stored In: Date/Time	
Relinquished By/Removed From: Date/Time	Received By/Stored In: Date/Time	

SPECIAL INSTRUCTIONS

None

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

COPY

WCH-EE-011

RCF 19467

000000019

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD
Project/SAF/SOW/Release #:

Date: 4/18/09

LvLI Batch #: 0804L952

Sample Custodian: Pat Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 798422360924
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 14-4	°C	Cooler # SML-531
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 O-J.		Date 4-18-09	

LvLI LIONVILLE LABORATORY INC.