0078427

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

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow	L6-06	KW 7/9/08 Initials/Date
Kathy Wendt	H4-21	KW 7/9/08 Initials/Date

COMMENTS:

SDG K1166 **SAF-RC-087**

Rad only X Chem only Rad & Chem

X Complete Partial

RECEIVED
JUL 17 2008
EDMC

WASTE SITE: 618-7 Burial Ground/Stockpiles

LIONVILLE LABORATORY INC.

10 July 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 #	0803L830
SDG #	K1166
SAF #	RC-087
Date Received	3/27/08
# Samples	2
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
TNUHANFORD RC-087 K1166

DATE RECEIVED: 03/27/08 LVL LOT # :0803L830

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16DC5						
TCLP	001	S	08LT0027	03/10/08	04/07/08	04/08/08
J16DC9						
TCLP	002	S	08LT0027	03/14/08	04/07/08	04/08/08
J16DC5						
SILVER, TCLP LEACHAT	003	W	08L0136	04/08/08	04/09/08	04/10/08
SILVER, TCLP LEACHAT	003 REP	W	08L0136	04/08/08	04/09/08	04/10/08
SILVER, TCLP LEACHAT	003 MS	W	08L0136	04/08/08	04/09/08	04/10/08
ARSENIC, TCLP LEACHA	003	W	08L0136	04/08/08	04/09/08	04/10/08
ARSENIC, TCLP LEACHA	003 REP	W	08L0136	04/08/08	04/09/08	04/10/08
ARSENIC, TCLP LEACHA	003 MS	W	08L0136	04/08/08	04/09/08	04/10/08
BARIUM, TCLP LEACHAT	003	W	08L0136	04/08/08	04/09/08	04/10/08
BARIUM, TCLP LEACHAT	003 REP	W	08L0136	04/08/08	04/09/08	04/10/08
BARIUM, TCLP LEACHAT	003 MS	W	08L0136	04/08/08	04/09/08	04/10/08
CADMIUM, TCLP LEACHA	003	W	08L0136	04/08/08	04/09/08	04/10/08
CADMIUM, TCLP LEACHA	003 REP	W	08L0136	04/08/08	04/09/08	04/10/08
CADMIUM, TCLP LEACHA	003 MS	W	08L0136	04/08/08	04/09/08	04/10/08
CHROMIUM, TCLP LEACH	003	W	08L0136	04/08/08	04/09/08	04/10/08
CHROMIUM, TCLP LEACH	003 REP	W	08L0136	04/08/08	04/09/08	04/10/08
CHROMIUM, TCLP LEACH	003 MS	W	08L0136	04/08/08	04/09/08	04/10/08
MERCURY, TCLP LEACHA	003	W	08C0065	04/08/08	04/10/08	08/11/08
MERCURY, TCLP LEACHA	003 REP	W	08C0065	04/08/08	04/10/08	08/11/08
MERCURY, TCLP LEACHA	003 MS	W	08C0065	04/08/08	04/10/08	08/11/08
LEAD, TCLP LEACHATE	003	W	08L0136	04/08/08	04/09/08	04/10/08
LEAD, TCLP LEACHATE	003 REP	W	08L0136	04/08/08	04/09/08	04/10/08
LEAD, TCLP LEACHATE	003 MS	W	08L0136	04/08/08	04/09/08	04/10/08
SELENIUM, TCLP LEACH	003	W	08L0136	04/08/08	04/09/08	04/10/08
SELENIUM, TCLP LEACH	003 REP	W	08L0136	04/08/08	04/09/08	04/10/08
SELENIUM, TCLP LEACH	003 MS	W	08L0136	04/08/08	04/09/08	04/10/08
J16DC9						
SILVER, TCLP LEACHAT	004	W	08L0136	04/08/08	04/09/08	04/10/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-087 K1166

DATE RECEIVED: 03/27/08 LVL LOT # :0803L830

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ARSENIC, TCLP LEACHA	004	W	08L0136	04/08/08	04/09/08	04/10/08
BARIUM, TCLP LEACHAT	004	W	08L0136	04/08/08	04/09/08	04/10/08
CADMIUM, TCLP LEACHA	004	W	08L0136	04/08/08	04/09/08	04/10/08
CHROMIUM, TCLP LEACH	004	W	08L0136	04/08/08	04/09/08	04/10/08
MERCURY, TCLP LEACHA	004	W	08C0065	04/08/08	04/10/08	08/11/08
LEAD, TCLP LEACHATE	004	W	08L0136	04/08/08	04/09/08	04/10/08
SELENIUM, TCLP LEACH	004	W	08L0136	04/08/08	04/09/08	04/10/08

LAB QC:

SILVER LABORATORY	LC1 BS	W	08L0136	N/A	04/09/08	04/10/08
SILVER, TCLP LEACHAT	MB1	W	08L0136	N/A	04/09/08	04/10/08
SILVER, TCLP LEACHAT	MB2	W	08L0136	N/A	04/09/08	04/10/08
ARSENIC LABORATORY	LC1 BS	W	08L0136	N/A	04/09/08	04/10/08
ARSENIC, TCLP LEACHA	MB1	W	08L0136	N/A	04/09/08	04/10/08
ARSENIC, TCLP LEACHA	MB2	W	08L0136	N/A	04/09/08	04/10/08
BARIUM LABORATORY	LC1 BS	W	08L0136	N/A	04/09/08	04/10/08
BARIUM, TCLP LEACHAT	MB1	W	08L0136	N/A	04/09/08	04/10/08
BARIUM, TCLP LEACHAT	MB2	W	08L0136	N/A	04/09/08	04/10/08
CADMIUM LABORATORY	LC1 BS	W	08L0136	N/A	04/09/08	04/10/08
CADMIUM, TCLP LEACHA	MB1	W	08L0136	N/A	04/09/08	04/10/08
CADMIUM, TCLP LEACHA	MB2	W	08L0136	N/A	04/09/08	04/10/08
CHROMIUM LABORATORY	LC1 BS	W	08L0136	N/A	04/09/08	04/10/08
CHROMIUM, TCLP LEACH	MB1	W	08L0136	N/A	04/09/08	04/10/08
CHROMIUM, TCLP LEACH	MB2	W	08L0136	N/A	04/09/08	04/10/08
MERCURY LABORATORY	LC1 BS	W	08C0065	N/A	04/10/08	08/11/08
MERCURY, TOTAL	MB1	W	08C0065	N/A	04/10/08	08/11/08
MERCURY, TCLP LEACHA	MB2	W	08C0065	N/A	04/10/08	08/11/08
MERCURY, TCLP LEACHA	MB3	W	08C0065	N/A	04/10/08	08/11/08
LEAD LABORATORY	LC1 BS	W	08L0136	N/A	04/09/08	04/10/08
LEAD, TCLP LEACHATE	MB1	W	08L0136	N/A	04/09/08	04/10/08
LEAD, TCLP LEACHATE	MB2	W	08L0136	N/A	04/09/08	04/10/08
SELENIUM LABORATORY	LC1 BS	W	08L0136	N/A	04/09/08	04/10/08
SELENIUM, TCLP LEACH	MB1	W	08L0136	N/A	04/09/08	04/10/08
SELENIUM, TCLP LEACH	MB2	W	08L0136	N/A	04/09/08	04/10/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-087
LVL#: 0803L830
SDG/SAF#: K1166/RC-087

W.O.#: 11343-606-001-9999-00
Date Received: 03-27-08

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 2 TCLP leachates.

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

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).

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

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

10. The TCLP extract from sample J16DC5 was selected for the matrix spike (MS) for this analytical batch. All MS recoveries were greater than 50% as per method criteria.

11. 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

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.

quantification.

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

4/16/08
Date

alm/m03-830

METALS METHOD GLOSSARY

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

Lot#: 08031830

Leaching Procedure: __1310 __1311 __1312 __Other:_____

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

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

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B		__200.7				__99
Antimony	__6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	✓6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	✓6010B		__200.7				__99
Beryllium	__6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	__6010B		__200.7				__99
Cadmium	✓6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	__6010B		__200.7				__99
Chromium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	__6010B		__200.7				__99
Copper	__6010B	__7211 [5]	__200.7	__220.2			__99
Iron	__6010B		__200.7				__99
Lead	✓6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	__6010B		__200.7				__99
Manganese	__6010B		__200.7				__99
Mercury	✓7470A [3]	__7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B		__200.7				__99
Nickel	__6010B		__200.7				__99
Potassium	__6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	✓6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	✓6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	__6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B		__200.7				__99
Thallium	__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	__6010B		__200.7				__99
Zinc	__6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ 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 04/11/08

CLIENT: TNUHANFORD RC-087 K1166 LVL LOT #: 0803L830

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J16DC5	Silver, TCLP Leachate	3.6	UG/L	1.0	1.0
		Arsenic, TCLP Leachate	10.9	UG/L	5.0	1.0
		Barium, TCLP Leachate	434	UG/L	1.0	1.0
		Cadmium, TCLP Leachate	4.0	UG/L	0.50	1.0
		Chromium, TCLP Leachate	5.5	UG/L	2.0	1.0
		Mercury, TCLP Leachate	0.06 u	UG/L	0.06	1.0
		Lead, TCLP Leachate	90.8	UG/L	34.8	1.0
		Selenium, TCLP Leachate	21.3	UG/L	6.0	1.0
-004	J16DC9	Silver, TCLP Leachate	1.0 u	UG/L	1.0	1.0
		Arsenic, TCLP Leachate	22.0	UG/L	5.0	1.0
		Barium, TCLP Leachate	3160	UG/L	1.0	1.0
		Cadmium, TCLP Leachate	40.7	UG/L	0.50	1.0
		Chromium, TCLP Leachate	17.0	UG/L	2.0	1.0
		Mercury, TCLP Leachate	0.06 u	UG/L	0.06	1.0
		Lead, TCLP Leachate	15700	UG/L	34.8	1.0
		Selenium, TCLP Leachate	12.2	UG/L	6.0	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/11/08

CLIENT: TNUHANFORD RC-087 K1166 LVL LOT #: 0803L830

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0136-MB1	Silver, TCLP Leachate	1.0	u	UG/L	1.0	1.0
		Arsenic, TCLP Leachate	9.0		UG/L	5.0	1.0
		Barium, TCLP Leachate	1.3		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	34.8	u	UG/L	34.8	1.0
		Selenium, TCLP Leachate	6.0	u	UG/L	6.0	1.0
BLANK2	08L0136-MB2	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	34.8	u	UG/L	34.8	1.0
		Selenium, TCLP Leachate	9.1		UG/L	6.0	1.0
BLANK1	08C0065-MB1	Mercury, Total	0.06	u	UG/L	0.06	1.0
BLANK2	08C0065-MB2	Mercury, TCLP Leachate	0.06		UG/L	0.06	1.0
BLANK3	08C0065-MB3	Mercury, TCLP Leachate	0.06	u	UG/L	0.06	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 04/11/08

CLIENT: TNUHANFORD RC-087 K1166

LVL LOT #: 0803L830

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-003	J16DC5	Silver, TCLP Leachate	3310	3.6	5000	66.1	1.0
		Arsenic, TCLP Leachate	4090	10.9	5000	81.6	1.0
		Barium, TCLP Leachate	90200	434	100000	89.8	1.0
		Cadmium, TCLP Leachate	812	4.0	1000	80.8	1.0
		Chromium, TCLP Leachat	3870	5.5	5000	77.3	1.0
		Mercury, TCLP Leachate	195	0.06u	200	97.4	50.0
		Lead, TCLP Leachate	4010	90.8	5000	78.4	1.0
		Selenium, TCLP Leachat	824	21.3	1000	80.3	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 04/11/08

CLIENT: TNUHANFORD RC-087 K1166 LVL LOT #: 0803L830

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-003REP	J16DC5	Silver, TCLP Leachate	3.6	1.0 u	NC	1.0
		Arsenic, TCLP Leachate	10.9	5.0 u	NC	1.0
		Barium, TCLP Leachate	434	477	9.4	1.0
		Cadmium, TCLP Leachate	4.0	3.8	5.1	1.0
		Chromium, TCLP Leachate	5.5	2.4	78.5	1.0
		Mercury, TCLP Leachate	0.06u	0.06u	NC	1.0
		Lead, TCLP Leachate	90.8	99.5	9.1	1.0
		Selenium, TCLP Leachate	21.3	37.6	55.3	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 04/11/08

CLIENT: TNUHANFORD RC-087 K1166 LVL LOT #: 0803L830

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0136-LC1	Silver, LCS	448	500	UG/L	89.6
		Arsenic, LCS	8810	10000	UG/L	88.1
		Barium, LCS	4560	5000	UG/L	91.1
		Cadmium, LCS	226	250	UG/L	90.4
		Chromium, LCS	442	500	UG/L	88.5
		Lead, LCS	2230	2500	UG/L	89.2
		Selenium, LCS	8820	10000	UG/L	88.2
LCS1	08C0065-LC1	Mercury, LCS	5.1	5.0	UG/L	101.6

Lionville Laboratory Incorporated

Logbook #: 740

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0136
Date/Time Initiated: 4/9/08 1030
Date/Time Completed: 4/9/08 1600
Analyst(s): MW
Matrix: Soil Water Other: leachate
Instr. Type: AA (ICP)
Parameters: RCRA

(Digested) / Undigested (circle one)
Balance #: N/A
Balance Cal Verif: Y (NA)
Hot Plate Temp: 90°

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 glass

TM

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
0803L830-003		100 ml	100 ml	<2	TC	N/A	clear/colorless	N/A	N/A
003R									
003S	1.0 ml								
004									
0804L854-003									
003R									
003S	1.0 ml								
004									
0804L860-003									
003R									
003S	1.0 ml								
004									
08LT0027-LB1									
08L0136-MB1									
LC1	1.0 ml								

MW 4/9/08

Spiking IDs:
MS #: 6072-073-03
05

LCS #: 6072-078-08
09
10
11

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

File ID#: IC013601
LIMS Transfer: (Y) N updated
Data Review By/Date: PMP, 04/10/08

Lionville Laboratory
Incorporated

MERCURY PREPARATION

Logbook # 422

Analyst: GB
Date 4/10/08
Start Time/Temp: 1025 | 93°
End Time/Temp: 1225 | 92°

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

Prep Batch: 08C0065
Worksheet: HG041101
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	OLN			33mL	33mL	Poured & Spiked 4/9/08
0.2 ug/L	JB	0.0667				Refridg. 08 [illegible] 4/10/08
1.0	297	0.334				
2.0	A94	0.667				
5.0	AP	1.667				
10.0	DX	3.334				
ICV	LV	0.0834	2.5			
CCV	A4	0.167	5.0			
ICB/CCB	194					
MBI	8H					
LCI	503	0.167	5.0			
0803L830-003	PT					
003R	IC					
003S	11A	0.667	200			
004	N2					
0804L860-003	JC					
003R	E7					
003S	AB	0.667	200			
004	BLV					
0804L854-003	N4					
003R	700					
003S	JS	0.667	200			
004	2B					
0803L841-017	711					
017S	C48	0.667	200			
018	WN					
019	55					

Standard:	ID	Prep Date/Time
CAL/MS	RI 6072-75-07A	4/9/08 0945
CV/CCV/LCS	US 6072-75-08B	↓

Reviewed By/Date: [signature] 4/16/08

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 #:

000000013

Lionville Laboratory Incorporated

MERCURY PREPARATION

Logbook # 422

Analyst: TLD
Date 4/10/08
Start Time/Temp: pm T
End Time/Temp: see VA

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

Prep Batch: 08C0065
Worksheet: HG041101
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.
08031841-020	CM			33mL	33mL	
021	S					
022	WU					
023	CB					
024	ST					
08LT0027-LB1	G12					
08LT0028-LB1	CB2					

EEA 4/10/08

Standard:	ID	Prep Date/Time
ICAL/MS		
ICV/CCV/LCS	See page 069	

Reviewed By/Date [signature] 4/16/08

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

...ville Laboratory Use Only

8036830

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

VLI

000000015

...nt TNU HANFORD 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 15 days

...Rec'd 3-27-08 Date Due 4-11-08

Refrigerator #													A 3						
#/Type Container	Liquid / Solid												1P		LEACHATE				
Volume													500						
Preservatives													–						
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb								INORG: TCLP Metal Hg	CN					
		Lionville Laboratory Use Only																	
													ITCLP		RECRA				

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ITCLP	RECRA
001	J16 DC5			Soil	3/10/08	0915	X	
002	⊥ 9			⊥	3/14/08	1015	X	
003	⊥ DC5 TCLP of 001			⊥	⊥			X
004	⊥ DC9 ⊥ 002			⊥	⊥			X

...cial Instructions: See Labchron

Special Instructions:

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

Relinquished by	Received by	Date	Time
[signature]	[signature]	3/27/08	0935

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGIN L REWRITTEN		COMPOSITE WASTE	

Hanford Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-087-034 | Page 1 of 1

Collector: B Lawrence	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8G	Data Turnaround: 15 Days		
Project Designation: 618-7 Burial Ground - Soil	Sampling Location: 618-7 Burial Ground/Stockpiles		SAF No.: RC-087
Ice Chest No.: ERC-96-511	Field Logbook No.: EL-1359-12	COA: RG61878500	Method of Shipment: FED EX
Shipped To: ~~EBERLINE SERVICES~~ LIONVILLE	Offsite Property No.: A080206		Bill of Lading/Air Bill No.: SEE DSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

< DOT LIMITS

Special Handling and/or Storage

None

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		
~~16DC4~~	~~SOIL~~	3/10/08	0900	X	B005
16DC5	SOIL	3/10/08	0915	X	B006
~~6DC6~~	~~SOIL~~				
~~6DC7~~	~~SOIL~~				
~~6DC8~~	~~SOIL~~				

RCF J16DK3

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence	0930 3-10-08	RT Coffman/RT Coffman	0930 3/10/08
RT Coffman/RT Coffman	1800 3/10/08	REFER #1A	1800 3/10/08
66 BATELLE 1A	3/26/08 1230	Louis St John	3/26/08 1230
Louis St John	3/26/08 1230	FED EX	
Fed Ex	3-27-08 0935		3-27-08 0935

SPECIAL INSTRUCTIONS

None

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

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

H-EE-011

000000016

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-087-035	Page 1 of 1

Collector: B Lawrence	Company Contact: Joan Kessner; Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 8G; Data Turnaround: 15 Days
Project Designation: 618-7 Burial Ground - Soil	Sampling Location: 618-7 Burial Ground/Stockpiles	SAF No.: RC-087	
Ice Chest No.: ERC-96-511	Field Logbook No.: EL-1359-12; COA: RG61878500	Method of Shipment: FED EX	
Shipped To: ~~EBERLINE SERVICES~~ / LIONVILLE (HLS/25/08)	Offsite Property No.: A0B0206	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radiological and Beryllium contamination

<DOT LIMITS>

Special Handling and/or Storage

None

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										
16DC9	SOIL	3·14·08	1015	X		RCF	J16D98			C001			

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence [signature]	1030 3-14-08	R. Falley R. Fehlberg	1030 3·14·08
R. Falley R. Fehlberg	1415 3·14·08	Ref 1-A 3·14·08	1415
1060/1A 3/17/08	0830	MS Stankovich	0830 3/17/08
MS [signature] David St. John	3/26/08 1230	FED EX	
FedEx	3-27-08 0935	[signature]	3-27-08 0935

SPECIAL INSTRUCTIONS

None

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

MIKE STANKOVICH UNAVAILABLE TO RELINQUISH SAMPLES FOR SHIPMENT TO LABORATORY DUE TO ILLNESS. SAMPLES RELINQUISHED BY DAVE ST. JOHN FOR M. STANKOVICH FROM REF 1A ON 3/26/08 @ 1230 FOR DELIVERY 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: TNU HANFORD

Project/SAP/SOW/Release #: RC-087

Date: 3/27/08

LvLI Batch #: 08031830

Sample Custodian: V. Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7918 7358 1123
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 3-3	°C	Cooler # ERC-96-511
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.