0077912

SAF-RC-088
618-7 Burial Ground – Other Liquids
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow	L6-06	KW 6/9/08 Initials/Date
Kathy Wendt	H4-21	KW 6/9/08 Initials/Date

COMMENTS:

SDG **K1117** **SAF-RC-088**

Rad only X Chem only Rad & Chem

X Complete Partial

ADD-ON TCLP METALS FOR SAMPLE J169M3-A

WASTE SITE: 618-7 Burial Ground (drums)

RECEIVED
JUN 12 2008
EDMC

LIONVILLE LABORATORY INC.

RECEIVED JUN 2008

2 June 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 #	0804L991
SDG #	K1117-ADDON
SAF #	RC-088
Date Received	4/25/08
# Samples	1
Matrix	OTHER SOLID
Volatiles	
Semivolatiles	
Pest/PCB	
Glycols	
DRO/KRO/GRO	
GC Organics	
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-088 K1117

RECEIVED JUN 2008

DATE RECEIVED: 04/25/08 LVL LOT # :0804L992

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J169M3-A						
TCLP	001	SO	08LT0035	02/06/08	04/29/08	04/30/08
SILVER, TCLP LEACHAT	002	W	08L0180	04/30/08	05/02/08	05/05/08
SILVER, TCLP LEACHAT	002 REP	W	08L0180	04/30/08	05/02/08	05/05/08
SILVER, TCLP LEACHAT	002 MS	W	08L0180	04/30/08	05/02/08	05/05/08
ARSENIC, TCLP LEACHA	002	W	08L0180	04/30/08	05/02/08	05/05/08
ARSENIC, TCLP LEACHA	002 REP	W	08L0180	04/30/08	05/02/08	05/05/08
ARSENIC, TCLP LEACHA	002 MS	W	08L0180	04/30/08	05/02/08	05/05/08
BARIUM, TCLP LEACHAT	002	W	08L0180	04/30/08	05/02/08	05/05/08
BARIUM, TCLP LEACHAT	002 REP	W	08L0180	04/30/08	05/02/08	05/05/08
BARIUM, TCLP LEACHAT	002 MS	W	08L0180	04/30/08	05/02/08	05/05/08
CADMIUM, TCLP LEACHA	002	W	08L0180	04/30/08	05/02/08	05/05/08
CADMIUM, TCLP LEACHA	002 REP	W	08L0180	04/30/08	05/02/08	05/05/08
CADMIUM, TCLP LEACHA	002 MS	W	08L0180	04/30/08	05/02/08	05/05/08
CHROMIUM, TCLP LEACH	002	W	08L0180	04/30/08	05/02/08	05/05/08
CHROMIUM, TCLP LEACH	002 REP	W	08L0180	04/30/08	05/02/08	05/05/08
CHROMIUM, TCLP LEACH	002 MS	W	08L0180	04/30/08	05/02/08	05/05/08
MERCURY, TCLP LEACHA	002	W	08C0077	04/30/08	05/01/01	05/01/01
MERCURY, TCLP LEACHA	002 REP	W	08C0077	04/30/08	05/01/01	05/01/01
MERCURY, TCLP LEACHA	002 MS	W	08C0077	04/30/08	05/01/01	05/01/01
LEAD, TCLP LEACHATE	002	W	08L0180	04/30/08	05/02/08	05/05/08
LEAD, TCLP LEACHATE	002 REP	W	08L0180	04/30/08	05/02/08	05/05/08
LEAD, TCLP LEACHATE	002 MS	W	08L0180	04/30/08	05/02/08	05/05/08
SELENIUM, TCLP LEACH	002	W	08L0180	04/30/08	05/02/08	05/05/08
SELENIUM, TCLP LEACH	002 REP	W	08L0180	04/30/08	05/02/08	05/05/08
SELENIUM, TCLP LEACH	002 MS	W	08L0180	04/30/08	05/02/08	05/05/08
AB QC:						
SILVER LABORATORY	LC1 BS	W	08L0180	N/A	05/02/08	05/05/08
SILVER, TCLP LEACHAT	MB1	W	08L0180	N/A	05/02/08	05/05/08
SILVER, TCLP LEACHAT	MB2	W	08L0180	N/A	05/02/08	05/05/08
SILVER, TCLP LEACHAT	MB3	W	08L0180	N/A	05/02/08	05/05/08
ARSENIC LABORATORY	LC1 BS	W	08L0180	N/A	05/02/08	05/05/08
ARSENIC, TCLP LEACHA	MB1	W	08L0180	N/A	05/02/08	05/05/08
ARSENIC, TCLP LEACHA	MB2	W	08L0180	N/A	05/02/08	05/05/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-088 K1117

DATE RECEIVED: 04/25/08 LVL LOT # :0804L991

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ARSENIC, TCLP LEACHA	MB3	W	08L0180	N/A	05/02/08	05/05/08
BARIUM LABORATORY	LC1 BS	W	08L0180	N/A	05/02/08	05/05/08
BARIUM, TCLP LEACHAT	MB1	W	08L0180	N/A	05/02/08	05/05/08
BARIUM, TCLP LEACHAT	MB2	W	08L0180	N/A	05/02/08	05/05/08
BARIUM, TCLP LEACHAT	MB3	W	08L0180	N/A	05/02/08	05/05/08
CADMIUM LABORATORY	LC1 BS	W	08L0180	N/A	05/02/08	05/05/08
CADMIUM, TCLP LEACHA	MB1	W	08L0180	N/A	05/02/08	05/05/08
CADMIUM, TCLP LEACHA	MB2	W	08L0180	N/A	05/02/08	05/05/08
CADMIUM, TCLP LEACHA	MB3	W	08L0180	N/A	05/02/08	05/05/08
CHROMIUM LABORATORY	LC1 BS	W	08L0180	N/A	05/02/08	05/05/08
CHROMIUM, TCLP LEACH	MB1	W	08L0180	N/A	05/02/08	05/05/08
CHROMIUM, TCLP LEACH	MB2	W	08L0180	N/A	05/02/08	05/05/08
CHROMIUM, TCLP LEACH	MB3	W	08L0180	N/A	05/02/08	05/05/08
MERCURY LABORATORY	LC1 BS	W	08C0077	N/A	05/01/01	05/01/01
MERCURY, TOTAL	MB1	W	08C0077	N/A	05/01/01	05/01/01
MERCURY, TCLP LEACHA	MB2	W	08C0077	N/A	05/01/01	05/01/01
MERCURY, TCLP LEACHA	MB3	W	08C0077	N/A	05/01/01	05/01/01
LEAD LABORATORY	LC1 BS	W	08L0180	N/A	05/02/08	05/05/08
LEAD, TCLP LEACHATE	MB1	W	08L0180	N/A	05/02/08	05/05/08
LEAD, TCLP LEACHATE	MB2	W	08L0180	N/A	05/02/08	05/05/08
LEAD, TCLP LEACHATE	MB3	W	08L0180	N/A	05/02/08	05/05/08
SELENIUM LABORATORY	LC1 BS	W	08L0180	N/A	05/02/08	05/05/08
SELENIUM, TCLP LEACH	MB1	W	08L0180	N/A	05/02/08	05/05/08
SELENIUM, TCLP LEACH	MB2	W	08L0180	N/A	05/02/08	05/05/08
SELENIUM, TCLP LEACH	MB3	W	08L0180	N/A	05/02/08	05/05/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-088
LVL#: 0804L991
SDG/SAF#: K1117/RC-088

W.O.#: 11343-606-001-9999-00
Date Received: 04-25-08

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 analysis of 1 TCLP leachate.

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.

   Samples J169M3-A, J169M3-A replicate, J169M3-A spike were prepped at two fold dilutions for Mercury due to sample volume. The samples J169M3-A and J169M3-A replicate were run at a 5-fold dilution and sample J169M3-A spike was run at a 25-fold dilution for Mercury.

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. All duplicate analyses were within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

10. The TCLP extract from sample J169M3-A was selected for the matrix spike (MS) for this

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 19 pages.

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 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

5/7/02
Date

alm/m04-991

LvLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

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

ot#: 08041991

eaching Procedure: __1310 __1311 __1312 __Other:_____

LP 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
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
ron	__6010B		__200.7				__99
ead	✓6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
ithium	__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
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

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 05/07/08

CLIENT: TNUHANFORD RC-088 K1117 LVL LOT #: 0804L991

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J169M3-A	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	2750		UG/L	6.0	6.0
		Cadmium, TCLP Leachate	3.0	u	UG/L	3.0	6.0
		Chromium, TCLP Leachate	23.4		UG/L	12.0	6.0
		Mercury, TCLP Leachate	0.60	u	UG/L	0.60	10.0
		Lead, TCLP Leachate	195		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 05/07/08

CLIENT: TNUHANFORD RC-088 K1117 LVL LOT #: 0804L991

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0180-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	1.1		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	08L0180-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
BLANK3	08L0180-MB3	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	08C0077-MB1	Mercury, Total	0.06	u	UG/L	0.06	1.0
BLANK2	08C0077-MB2	Mercury, TCLP Leachate	0.06	u	UG/L	0.06	1.0
BLANK3	08C0077-MB3	Mercury, TCLP Leachate	0.06	u	UG/L	0.06	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 05/07/08

CLIENT: TNUHANFORD RC-088 K1117 LVL LOT #: 0804L991

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	J169M3-A	Silver, TCLP Leachate	10100	6.0 u	10000	100.6	3.0
		Arsenic, TCLP Leachate	10000	30.0 u	10000	100.5	3.0
		Barium, TCLP Leachate	98200	2750	100000	95.5	3.0
		Cadmium, TCLP Leachate	2100	3.0 u	2000	105.0	3.0
		Chromium, TCLP Leachat	10500	23.4	10000	104.3	3.0
		Mercury, TCLP Leachate	177	0.60u	200	88.3	50.0
		Lead, TCLP Leachate	10700	195	10000	105.0	3.0
		Selenium, TCLP Leachat	1970	36.0 u	2000	98.7	3.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 05/07/08

CLIENT: TNUHANFORD RC-088 K1117 LVL LOT #: 0804L991

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-002REP	J169M3-A	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	2750	2850	3.7	6.0
		Cadmium, TCLP Leachate	3.0 u	3.0 u	NC	6.0
		Chromium, TCLP Leachate	23.4	23.2	0.86	6.0
		Mercury, TCLP Leachate	0.60u	0.60u	NC	10.0
		Lead, TCLP Leachate	195	225	14.0	6.0
		Selenium, TCLP Leachate	36.0 u	36.0 u	NC	6.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 05/07/08

CLIENT: TNUHANFORD RC-088 K1117 LVL LOT #: 0804L991

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0180-LC1	Silver, LCS	490	500	UG/L	98.0
		Arsenic, LCS	9340	10000	UG/L	93.4
		Barium, LCS	4890	5000	UG/L	97.9
		Cadmium, LCS	240	250	UG/L	96.0
		Chromium, LCS	487	500	UG/L	97.5
		Lead, LCS	2410	2500	UG/L	96.6
		Selenium, LCS	9280	10000	UG/L	92.8
LCS1	08C0077-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 #: 08L0180
Date/Time Initiated: 5/2/08 1245
Date/Time Completed: 5/2/08
Analyst(s): LA
Matrix: Soil Water Other:
Instr. Type: AA ICP
Parameters: Pb/Cr

Digested / Undigested (circle one)
Balance #: NA
Balance Cal Verif: Y NA
Hot Plate Temp: 94°

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

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
08041989-002		100	100	<2	TC	NA	clear	NA	NA
002R									
002S	1.0								
08041989-003									
003R									
003S	1.0								
004									
08041991-002		50	50					limited vol.	
002R									
* 002S	1.0								
08041976-002		100	100					NA	NA
002R									
002S	1.0								
08041019-005							yellow/clear		
005R									
005S	1.0								
006									
007									
008									
08L0180-MB1							Clear		
MB2									
MB3									
LC1	1.0								

Ten 5/2/08

Spiking IDs:
MS #: 60072-73-05
78-06

LCS #: 60072-78-08
09
10
11

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

File ID#: IC018001
LIMS Transfer: Y N Updated
Data Review By/Date:
PMP, 05/05/08

* spiked w/ 1.0mL of TCLP spike & 0.5mL Ba spike

ille Laboratory
porated

MERCURY PREPARATION

Logbook # 422

t: CB
5/1/08
ime/Temp: 1315 | 98°
me/Temp: 1515 | 98°

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

Prep Batch: 08C0077
Worksheet: HL050101
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	JI			33mL	33mL	
0.2 µg/L	A22	0.0667				
1.0	PC	0.334				
2.0	BLV	0.667				
5.0	508	1.667				
10.0	A1	3.334				
ICV	194	0.0834	2.5			
CCV	B14	0.167	5.0			
ICB/CCB	K17					
MB1	R					PBW177
LCI	A901	0.167	5.0			LCSW177
0804L002-001	WK					
001R	583					
001S	ET	0.334	1.0			
0804L998-004	76					
004R	154					
004S	R2	0.334	1.0			
009	AP					
014	X0					
0804L023-004	CM					
0804L020-006	L53					
017	71L					
0804L958-004	P18					
004S	297	0.667	200			
005	857					
006	N60					
0804L929-002	AIR					

rd:	ID	Prep Date/Time
S	R16072-78-14B	5/1/08 1105
V/LCS	45 6072-78-15A	I

Reviewed By/Date: [signature] 5/7/08

see book # 9368 for std traceability information

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

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

VAA-Prep1007

Page #:

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onville Laboratory
corporated

MERCURY PREPARATION

Logbook # 422

alyst: DRB
ite 5/1/08
art Time/Temp:
d Time/Temp: See page 090

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

Prep Batch: 08C0077
Worksheet: HG050101
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.
0804L929-002R	H5			33mL	33mL	
002S	BG	0.667	200			
0804L989-003	JS					
003R	5T					
003S	95	0.667	200			
004	S					
0804L991-002	HW			16.5mL		lint's vol
002R	55					
002S	TR	0.667	200			
0804L976-002	3T			33mL		
002R	PT					
002S	KX	0.667	200			
08LT0032-LB1	F8					
08LT0034-LB1	I4					
TEB 5/1/08						

DRB 5/1/08

ndard:	ID	Prep Date/Time
L/MS		
/CCV/LCS	See page 090	

Reviewed By/Date: [signature] 5/7/08

see book # 9368 for std traceability information

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

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

HgCVAA-Prep1007

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onville Laboratory Use Only

1804L991

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

ent TNU HANFORD SAF# RC.088

. Final Proj. Sampling Date

ject# 11343-606-001-9999-00

ject Contact/Phone#

nville Laboratory Project Manager O Johnson

SW846 Del STO TAT ~~15~~ 04 days

te Rec'd 4-25-08 Date Due 7 5-~~10~~ 02-08

Refrigerator #		A
#/Type Container	Liquid	3
	Solid	1P
Volume		500
Preservatives		

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	~~Pest~~/PCB	Herb			RCRATCN	~~TCL~~ Metal	CN	Sanitary
001	J169M3-A 04 4/25/08	✓	✓	SOLID	2-6-08	1300		~~X~~ 04 0625H	~~X~~ 04 MDB	TTCLP				~~X~~ 04 MDI①		~~X~~ 04 IDEN
002	↓ TCLP of 001	✓	✓	↓	~~[illegible]~~								X			

Lionville Laboratory Use Only

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

ecial Instructions:

Met ① = HSL + Zr, Sn

e Lab Chron

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	4/25/08	0955

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

000000015

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-088-001 Page 1 of 1

ollector: R. Kerkow / B. Lawrence / W. Sexsmith	Company Contact: Joan Kessner — Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 3E — Data Turnaround: 15 Days
oject Designation: 618-7 Burial Ground - Other Liquids	Sampling Location: 618-7 Burial Ground (drums)	SAF No.: RC-088	
e Chest No.: AFS-04-033	Field Logbook No.: EL-1395-12 — COA: RG61872600	Method of Shipment: FED EX	
ipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080166	Bill of Lading/Air Bill No.: SEE OSPC	

OSSIBLE SAMPLE HAZARDS/REMARKS

otential Radioactive contamination, potential beryllium ontamination < D.O.T. LIMITS

pecial Handling and/or Storage

lone

Preservation	Cool 4C	None	None	None	cool 4C						
Type of Container	aG	~~P~~ RK 2/5/08	~~P~~ RK 2/5/08	P	aG						
No. of Container(s)	1	~~X~~ 0 RK 2/5/08	~~X~~ 0 RK 2/5/08	1	Ø						
Volume *	~~125mL~~ 250mL RK 2/5/08	~~125mL~~ RK 2/5/08	~~60mL~~ RK 2/5/08	500mL	250ml						
	← Collected in One Container										
SAMPLE ANALYSIS	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions	Semi-VOA *						

Sample No.	Matrix *	Sample Date	Sample Time										
169M3	OTHER LIQUID	2-6-08	1300	X	X	X	X						
~~169M4~~	~~OTHER LIQUID~~	~~2-6-08~~	~~1315~~	~~X~~	~~X~~	~~X~~	~~X~~	JK	4/24/08				

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B Lawrence [signature]	2-6-08 1415	RB Kerkow / RB Kerkow	2-6-08 1415
RB Kerkow / RB Kerkow	2-6-08 1510	REF 1B, 3728, RBK	2-6-08 1510
3728 REF 1B / REF 1B	02/07/08 1300	DAVID ST JOHN [signature]	02/07/08 1500
WIP ST JOHN [signature]	2/7/08 1500	1060 Bc. Bl. Blu REF 3A	2/7/08 1500
1060 B.B. #3A	2-11-08 0915	TR Edmundson / TR Edmundson	2-11-08 0915
TR Edmundson / TR Edmundson	WCH 2-11-08 12:00	Fed Ex	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc, Zirconium}; ICP Metals - 6010A (Add-on) {Arsenic, Beryllium, Lead, Selenium, Thallium, Tin}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr, ADD: TC-99 RBK 2/5/08.

* NOTE: PCBs, ITEM (1), AND IGNITABILITY ARE CONSOLIDATED INTO ONE 250 ml aG CONTAINER. RUN SEMI-VOA WITH THIS CONTAINER RB 2/5/08 TOO. TRE 2-11-08

samples from 3728 Ref # 3A.
3728 Custodian removed samples for shipping on 2/11/08.
Sampler unavailable to relinquish

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: Relinquished by FED EX Alex Kelley 4/24/08 16:00	Received By: FED EX 02/12/08 0915	Title
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-0111

000000016

Eberline Services
2030 Wright Avenue
P.O. Box 4040
Richmond, CA 94804
(510) 235-2633
(510) 235-0438 FAX

Eberline Services

Memo

To: Roger Mitchell and Alex Kelenson

From: Melissa Mannion MCM

CC: Ted McKay

Date: 04/16/08

Re: **Shipping AaSample to Lionville**

Please ship the solid portion of the following sample to Lionville Lab.

W.O. No.: R802094-7764
Sample No.: 7764-01
Client I.D.: J169M3-A
Matrix: Solid
SDG No. K1117

Alex: Ship only the solid portion of the sample (aluminum fraction). Ship 140 grams of the sample to Lionville, keep 20 grams.

Ship the sample to the following address by Federal Express:

Lionville Laboratory Inc.
208 Welsh Pool Road
Lionville, PA 19353
Attn: Orlette Johnson
(610) 280-3012

Samples must be shipped under chain-of-custody.

Questions see MCM

04/24/08 08:42:43 WORK ID: SAF# RC-088 SDG# K1117

VD: 04/16/08 DUE: 04/25/08 KEEP: 04/25/09 DISP: S

SH	SAMPLE IDENTIFICATION	STORED	TESTS for FRACTIONS with work in DEPT: SU and CATEGORY					
A	J169M3	SCA-2	DISPOS	E009	E046	E094	E181	E198
B	J169M3 MS	NA	E009	E046	E094	E181	E198	
C	J169M3 DUP	NA	E009	E046	E094	E181	E198	

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Alex Kelleusand	4/24/08	LIONVILLE	4/24/08		

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNCC HANFORD

Project/SAF/SOW/Release #: RC-088

Date: 4/25/08

LvLI Batch #: 08041991

Sample Custodian: Vicky Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FED EX		Airbill # 7984 2785 8378
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 14.2 °C		Cooler # Box
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.