0059229

SAF-B02-065
618-5 Burial Ground – Anomalous Waste (Solids)
FINAL DATA PACKAGE

FAX RESULTS TO:

Jeff Lerch 373-5373 _____N/A_____
INITIAL/DATE

VERIFICATION OF CLIENT RECEIPT:

Phone or CC:Mail to Jeff Lerch _____N/A_____
INITIAL/DATE

MAIL COMPLETE COPY OF DATA PACKAGE TO:

Jeff Lerch L6-06 _____N/A_____
INITIAL/DATE

Doug Bowers H9-09 _____N/A_____
INITIAL/DATE

COMMENTS: (PLEASE INCLUDE THE FOLLOWING ON THE FAX COVER SHEET)

SDG ____H2055____ SAF-B02-065

Rad only X Chem only Rad & Chem

X Complete Partial

RECEIVED
APR 2 8 2003
EDMC

LIONVILLE LABORATORY INC.

3 February 2003

Joan Kessner
Bechtel-Hanford, Inc.
3190 Washington Way
MSIN H9-03
Richland, WA 99352

Subject: Contract No. 630
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 #	0301L560
SDG #	H2055
SAF #	B02-065
Date Received	1-23-03
# Samples	4
Matrix	Other Solid
Volatiles	
Semivolatiles	
Pest/PCB	
DRO	
GRO	
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

RECEIVED
FEB 2003

r:\group\pm\orlette\tnu-hanford\data\b_ltrs.doc

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

RECEIVED
FEB 2003

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B02-065 H2055

DATE RECEIVED: 01/23/03 LVL LOT # :0301L560

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00CK2						
TCLP	001	SO	03LTO011	01/20/03	01/27/03	01/28/03
J00CK3						
TCLP	002	SO	03LTO011	01/20/03	01/27/03	01/28/03
J00CK6						
TCLP	003	SO	03LTO011	01/20/03	01/27/03	01/28/03
J00CL1						
TCLP	004	SO	03LTO011	01/20/03	01/27/03	01/28/03
J00CK2						
SILVER, TCLP LEACHAT	005	W	03L0047	01/28/03	01/29/03	01/29/03
ARSENIC, TCLP LEACHA	005	W	03L0047	01/28/03	01/29/03	01/29/03
BARIUM, TCLP LEACHAT	005	W	03L0047	01/28/03	01/29/03	01/29/03
CADMIUM, TCLP LEACHA	005	W	03L0047	01/28/03	01/29/03	01/29/03
CHROMIUM, TCLP LEACH	005	W	03L0047	01/28/03	01/29/03	01/29/03
MERCURY, TCLP LEACHA	005	W	03C0016	01/28/03	01/28/03	01/29/03
LEAD, TCLP LEACHATE	005	W	03L0047	01/28/03	01/29/03	01/29/03
SELENIUM, TCLP LEACH	005	W	03L0047	01/28/03	01/29/03	01/29/03
J00CK3						
SILVER, TCLP LEACHAT	006	W	03L0047	01/28/03	01/29/03	01/29/03
SILVER, TCLP LEACHAT	006 REP	W	03L0047	01/28/03	01/29/03	01/29/03
SILVER, TCLP LEACHAT	006 MS	W	03L0047	01/28/03	01/29/03	01/29/03
ARSENIC, TCLP LEACHA	006	W	03L0047	01/28/03	01/29/03	01/29/03
ARSENIC, TCLP LEACHA	006 REP	W	03L0047	01/28/03	01/29/03	01/29/03
ARSENIC, TCLP LEACHA	006 MS	W	03L0047	01/28/03	01/29/03	01/29/03
BARIUM, TCLP LEACHAT	006	W	03L0047	01/28/03	01/29/03	01/29/03
BARIUM, TCLP LEACHAT	006 REP	W	03L0047	01/28/03	01/29/03	01/29/03

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B02-065 H2055

DATE RECEIVED: 01/23/03 LVL LOT # :0301L560

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BARIUM, TCLP LEACHAT	006 MS	W	03L0047	01/28/03	01/29/03	01/29/03
CADMIUM, TCLP LEACHA	006	W	03L0047	01/28/03	01/29/03	01/29/03
CADMIUM, TCLP LEACHA	006 REP	W	03L0047	01/28/03	01/29/03	01/29/03
CADMIUM, TCLP LEACHA	006 MS	W	03L0047	01/28/03	01/29/03	01/29/03
CHROMIUM, TCLP LEACH	006	W	03L0047	01/28/03	01/29/03	01/29/03
CHROMIUM, TCLP LEACH	006 REP	W	03L0047	01/28/03	01/29/03	01/29/03
CHROMIUM, TCLP LEACH	006 MS	W	03L0047	01/28/03	01/29/03	01/29/03
MERCURY, TCLP LEACHA	006	W	03C0016	01/28/03	01/28/03	01/29/03
MERCURY, TCLP LEACHA	006 REP	W	03C0016	01/28/03	01/28/03	01/29/03
MERCURY, TCLP LEACHA	006 MS	W	03C0016	01/28/03	01/28/03	01/29/03
LEAD, TCLP LEACHATE	006	W	03L0047	01/28/03	01/29/03	01/29/03
LEAD, TCLP LEACHATE	006 REP	W	03L0047	01/28/03	01/29/03	01/29/03
LEAD, TCLP LEACHATE	006 MS	W	03L0047	01/28/03	01/29/03	01/29/03
SELENIUM, TCLP LEACH	006	W	03L0047	01/28/03	01/29/03	01/29/03
SELENIUM, TCLP LEACH	006 REP	W	03L0047	01/28/03	01/29/03	01/29/03
SELENIUM, TCLP LEACH	006 MS	W	03L0047	01/28/03	01/29/03	01/29/03
J00CK6						
SILVER, TCLP LEACHAT	007	W	03L0047	01/28/03	01/29/03	01/29/03
ARSENIC, TCLP LEACHA	007	W	03L0047	01/28/03	01/29/03	01/29/03
BARIUM, TCLP LEACHAT	007	W	03L0047	01/28/03	01/29/03	01/29/03
CADMIUM, TCLP LEACHA	007	W	03L0047	01/28/03	01/29/03	01/29/03
CHROMIUM, TCLP LEACH	007	W	03L0047	01/28/03	01/29/03	01/29/03
MERCURY, TCLP LEACHA	007	W	03C0016	01/28/03	01/28/03	01/29/03
LEAD, TCLP LEACHATE	007	W	03L0047	01/28/03	01/29/03	01/29/03
SELENIUM, TCLP LEACH	007	W	03L0047	01/28/03	01/29/03	01/29/03
J00CL1						
SILVER, TCLP LEACHAT	008	W	03L0047	01/28/03	01/29/03	01/29/03
ARSENIC, TCLP LEACHA	008	W	03L0047	01/28/03	01/29/03	01/29/03
BARIUM, TCLP LEACHAT	008	W	03L0047	01/28/03	01/29/03	01/29/03
CADMIUM, TCLP LEACHA	008	W	03L0047	01/28/03	01/29/03	01/29/03
CHROMIUM, TCLP LEACH	008	W	03L0047	01/28/03	01/29/03	01/29/03
MERCURY, TCLP LEACHA	008	W	03C0016	01/28/03	01/28/03	01/29/03
LEAD, TCLP LEACHATE	008	W	03L0047	01/28/03	01/29/03	01/29/03
SELENIUM, TCLP LEACH	008	W	03L0047	01/28/03	01/29/03	01/29/03

LAB QC:

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B02-065 H2055

DATE RECEIVED: 01/23/03 LVL LOT # :0301L560

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SILVER LABORATORY	LC1 BS	W	03L0047	N/A	01/29/03	01/29/03
SILVER, TCLP LEACHAT	MB1	W	03L0047	N/A	01/29/03	01/29/03
SILVER, TCLP LEACHAT	MB2	W	03L0047	N/A	01/29/03	01/29/03
SILVER, TCLP LEACHAT	MB3	W	03L0047	N/A	01/29/03	01/29/03
ARSENIC LABORATORY	LC1 BS	W	03L0047	N/A	01/29/03	01/29/03
ARSENIC, TCLP LEACHA	MB1	W	03L0047	N/A	01/29/03	01/29/03
ARSENIC, TCLP LEACHA	MB2	W	03L0047	N/A	01/29/03	01/29/03
ARSENIC, TCLP LEACHA	MB3	W	03L0047	N/A	01/29/03	01/29/03
BARIUM LABORATORY	LC1 BS	W	03L0047	N/A	01/29/03	01/29/03
BARIUM, TCLP LEACHAT	MB1	W	03L0047	N/A	01/29/03	01/29/03
BARIUM, TCLP LEACHAT	MB2	W	03L0047	N/A	01/29/03	01/29/03
BARIUM, TCLP LEACHAT	MB3	W	03L0047	N/A	01/29/03	01/29/03
CADMIUM LABORATORY	LC1 BS	W	03L0047	N/A	01/29/03	01/29/03
CADMIUM, TCLP LEACHA	MB1	W	03L0047	N/A	01/29/03	01/29/03
CADMIUM, TCLP LEACHA	MB2	W	03L0047	N/A	01/29/03	01/29/03
CADMIUM, TCLP LEACHA	MB3	W	03L0047	N/A	01/29/03	01/29/03
CHROMIUM LABORATORY	LC1 BS	W	03L0047	N/A	01/29/03	01/29/03
CHROMIUM, TCLP LEACH	MB1	W	03L0047	N/A	01/29/03	01/29/03
CHROMIUM, TCLP LEACH	MB2	W	03L0047	N/A	01/29/03	01/29/03
CHROMIUM, TCLP LEACH	MB3	W	03L0047	N/A	01/29/03	01/29/03
MERCURY LABORATORY	LC1 BS	W	03C0016	N/A	01/28/03	01/29/03
MERCURY, TOTAL	MB1	W	03C0016	N/A	01/28/03	01/29/03
MERCURY, TCLP LEACHA	MB2	W	03C0016	N/A	01/28/03	01/29/03
MERCURY, TCLP LEACHA	MB3	W	03C0016	N/A	01/28/03	01/29/03
LEAD LABORATORY	LC1 BS	W	03L0047	N/A	01/29/03	01/29/03
LEAD, TCLP LEACHATE	MB1	W	03L0047	N/A	01/29/03	01/29/03
LEAD, TCLP LEACHATE	MB2	W	03L0047	N/A	01/29/03	01/29/03
LEAD, TCLP LEACHATE	MB3	W	03L0047	N/A	01/29/03	01/29/03
SELENIUM LABORATORY	LC1 BS	W	03L0047	N/A	01/29/03	01/29/03
SELENIUM, TCLP LEACH	MB1	W	03L0047	N/A	01/29/03	01/29/03
SELENIUM, TCLP LEACH	MB2	W	03L0047	N/A	01/29/03	01/29/03
SELENIUM, TCLP LEACH	MB3	W	03L0047	N/A	01/29/03	01/29/03

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B02-065
LVL#: 0301L560
SDG/SAF#: H2055/B02-065

W.O.#: 11343-606-001-9999-00
Date Received: 01-23-03

METALS CASE NARRATIVE

1. This narrative covers the analyses of 4 TCLP leachate samples.

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

   All samples for ICP metals were reported with 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.

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

7. All preparation/method blanks (MB) were within method criteria {less than the Practical Quantitation Limit (3X the IDL), 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 Inorganics Laboratory Control Standards Report.

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

11. The TCLP extract from sample J00CK3 was selected for the matrix spike (MS) for this analytical batch. All MS recoveries were greater than 50% as per method criteria.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 16 pages.

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

12. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.

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.

Pat G

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

01-30-03
Date

jjw/m01-560

LVLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Lot#: 0301L560

Leaching Procedure: __1310 X1311 __1312 __Other:_____

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

Metals Digestion Methods: __3005A X3010A __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	X6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	X6010B		__200.7				__99
Beryllium	__6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	__6010B		__200.7				__99
Cadmium	X6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	__6010B		__200.7				__99
Chromium	X6010B	__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	X6010B	__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	X7470A [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	X6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	X6010B	__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, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. 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, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).

4. Flame AA.

5. Graphite Furnace AA.

RFW 21-21L-033/N-10/96

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 01/30/03

CLIENT: TNUHANFORD B02-065 H2055

LVL LOT #: 0301L560

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	J00CK2	Silver, TCLP Leachate	12.4		UG/L	4.8	6.0
		Arsenic, TCLP Leachate	21.0	u	UG/L	21.0	6.0
		Barium, TCLP Leachate	608		UG/L	0.60	6.0
		Cadmium, TCLP Leachate	37.5		UG/L	2.4	6.0
		Chromium, TCLP Leachate	13.6		UG/L	3.6	6.0
		Mercury, TCLP Leachate	0.16		UG/L	0.10	1.0
		Lead, TCLP Leachate	35.3		UG/L	15.6	6.0
		Selenium, TCLP Leachate	21.6	u	UG/L	21.6	6.0
-006	J00CK3	Silver, TCLP Leachate	7.4		UG/L	4.8	6.0
		Arsenic, TCLP Leachate	21.0	u	UG/L	21.0	6.0
		Barium, TCLP Leachate	368		UG/L	0.60	6.0
		Cadmium, TCLP Leachate	224		UG/L	2.4	6.0
		Chromium, TCLP Leachate	197		UG/L	3.6	6.0
		Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0
		Lead, TCLP Leachate	408		UG/L	15.6	6.0
		Selenium, TCLP Leachate	21.6	u	UG/L	21.6	6.0
-007	J00CK6	Silver, TCLP Leachate	14.5		UG/L	4.8	6.0
		Arsenic, TCLP Leachate	21.0	u	UG/L	21.0	6.0
		Barium, TCLP Leachate	395		UG/L	0.60	6.0
		Cadmium, TCLP Leachate	183		UG/L	2.4	6.0
		Chromium, TCLP Leachate	7.2		UG/L	3.6	6.0
		Mercury, TCLP Leachate	0.22		UG/L	0.10	1.0
		Lead, TCLP Leachate	1960		UG/L	15.6	6.0
		Selenium, TCLP Leachate	21.6	u	UG/L	21.6	6.0
-008	J00CL1	Silver, TCLP Leachate	13.1		UG/L	4.8	6.0
		Arsenic, TCLP Leachate	21.0	u	UG/L	21.0	6.0
		Barium, TCLP Leachate	630		UG/L	0.60	6.0
		Cadmium, TCLP Leachate	432		UG/L	2.4	6.0
		Chromium, TCLP Leachate	59.9		UG/L	3.6	6.0
		Mercury, TCLP Leachate	0.51		UG/L	0.10	1.0
		Lead, TCLP Leachate	258		UG/L	15.6	6.0
		Selenium, TCLP Leachate	21.6	u	UG/L	21.6	6.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 01/30/03

CLIENT: TNUHANFORD B02-065 H2055

LVL LOT #: 0301L560

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	03L0047-MB1	Silver, TCLP Leachate	0.80	u	UG/L	0.80	1.0
		Arsenic, TCLP Leachate	3.5	u	UG/L	3.5	1.0
		Barium, TCLP Leachate	0.12		UG/L	0.10	1.0
		Cadmium, TCLP Leachate	0.40	u	UG/L	0.40	1.0
		Chromium, TCLP Leachate	0.67		UG/L	0.60	1.0
		Lead, TCLP Leachate	2.6	u	UG/L	2.6	1.0
		Selenium, TCLP Leachate	3.6	u	UG/L	3.6	1.0
BLANK2	03L0047-MB2	Silver, TCLP Leachate	4.8	u	UG/L	4.8	6.0
		Arsenic, TCLP Leachate	21.0	u	UG/L	21.0	6.0
		Barium, TCLP Leachate	1.7		UG/L	0.60	6.0
		Cadmium, TCLP Leachate	2.4	u	UG/L	2.4	6.0
		Chromium, TCLP Leachate	3.6	u	UG/L	3.6	6.0
		Lead, TCLP Leachate	15.6	u	UG/L	15.6	6.0
		Selenium, TCLP Leachate	21.6	u	UG/L	21.6	6.0
BLANK3	03L0047-MB3	Silver, TCLP Leachate	4.8	u	UG/L	4.8	6.0
		Arsenic, TCLP Leachate	21.0	u	UG/L	21.0	6.0
		Barium, TCLP Leachate	4.0		UG/L	0.60	6.0
		Cadmium, TCLP Leachate	2.4	u	UG/L	2.4	6.0
		Chromium, TCLP Leachate	4.2		UG/L	3.6	6.0
		Lead, TCLP Leachate	15.6	u	UG/L	15.6	6.0
		Selenium, TCLP Leachate	21.6	u	UG/L	21.6	6.0
BLANK1	03C0016-MB1	Mercury, Total	0.10	u	UG/L	0.10	1.0
BLANK2	03C0016-MB2	Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0
BLANK3	03C0016-MB3	Mercury, TCLP Leachate	0.14		UG/L	0.10	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 01/30/03

CLIENT: TNUHANFORD B02-065 H2055

LVL LOT #: 0301L560

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-006	J00CK3	Silver, TCLP Leachate	4470	7.4	5000	89.2	6.0
		Arsenic, TCLP Leachate	4580	21.0 u	5000	91.5	6.0
		Barium, TCLP Leachate	90700	368	100000	90.3	6.0
		Cadmium, TCLP Leachate	1130	224	1000	91.1	6.0
		Chromium, TCLP Leachat	4730	197	5000	90.6	6.0
		Mercury, TCLP Leachate	140	0.10u	200	70.2	50.0
		Lead, TCLP Leachate	5000	408	5000	91.9	6.0
		Selenium, TCLP Leachat	911	21.6 u	1000	91.1	6.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 01/30/03

CLIENT: TNUHANFORD B02-065 H2055 LVL LOT #: 0301L560

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-006REP	J00CK3	Silver, TCLP Leachate	7.4	5.5	29.5	6.0
		Arsenic, TCLP Leachate	21.0 u	21.0 u	NC	6.0
		Barium, TCLP Leachate	368	440	17.7	6.0
		Cadmium, TCLP Leachate	224	217	3.3	6.0
		Chromium, TCLP Leachate	197	132	39.4	6.0
		Mercury, TCLP Leachate	0.10u	0.10u	NC	1.0
		Lead, TCLP Leachate	408	402	1.5	6.0
		Selenium, TCLP Leachate	21.6 u	21.6 u	NC	6.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 01/30/03

CLIENT: TNUHANFORD B02-065 H2055 LVL LOT #: 0301L560

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	03L0047-LC1	Silver, LCS	495	500	UG/L	99.0
		Arsenic, LCS	9510	10000	UG/L	95.1
		Barium, LCS	4900	5000	UG/L	97.9
		Cadmium, LCS	242	250	UG/L	96.6
		Chromium, LCS	497	500	UG/L	99.3
		Lead, LCS	2410	2500	UG/L	96.4
		Selenium, LCS	9290	10000	UG/L	92.9
LCS1	03C0016-LC1	Mercury, LCS	4.4	5.0	UG/L	87.7

Lionville Laboratory Use Only

03011560

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLT Lionville Laboratory Inc

Client: TNU Hanford B02-065

Est. Final Proj. Sampling Date:

Project #: 11343-606-001-9999.00

Project Contact/Phone #:

Lionville Laboratory Project Manager: Orlette Johnson

QC: SPEC Del: STD TAT: 7 days

Date Rec'd: 1-23-03 Date Due: 1-30-03

Refrigerator #											A							
#/Type Container	Liquid										S							
	Solid																	
Volume	Liquid										1 qt		LCACHTCS					
	Solid																	
Preservatives											60							
ANALYSES REQUESTED →		ORGANIC									INORG							
		VOA	BNA	Pest/PCB	Herb						ICP Metal	CN	TCLP					
		Lionville Laboratory Use Only																
											ITCLP		RCRATCW					

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ITCLP	RCRATCW
001	J00CK2			SO	1-20-03	1252	X	
002	J00CK3					1254	X	
003	J00CK6					1302	X	
004	J00CL1					1314	X	
005	J00CK2 tclp of 001			L	*			✓
006	J00CK3 " 002							✓
007	J00CK6 " 003							✓
008	J00CL1 " 004							✓

Special Instructions: SAF # B02-065

Run Matrix QC

DATE/REVISIONS:

* 1. See labchron

2.

3.

4.

5.

6.

Relinquished by	Received by	Date	Time
Fed Ex	D Smith	1-23-03	0915

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Lionville Laboratory Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___

Airbill # 7915 1697 0155

2) Ambient or Chilled

3) Received in Good Condition (Y) or N

4) Samples Properly Preserved (Y) or N

5) Received Within Holding Times (Y) or N

Tamper Resistant Seal was: 1) Present on Outer Package (Y) or N

2) Unbroken on Outer Package (Y) or N

3) Present on Sample (Y) or N

4) Unbroken on Sample (Y) or N

COC Record Present Upon Sample Rec't (Y) or N

Cooler Temp. 6.8 °C

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES:

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B02-065-09	Page 1

Collector: Doug Bowers / Rob Fahlberg	Company Contact: Jeff Lerch	Telephone No.: 373-5904	Project Coordinator: KESSNER, JH	Price Code: 9J	Data Turnaround: 7 days
Project Designation: 618-5 Burial Ground - Anomalous Waste (Solids)	Sampling Location: 300-FF-1 618-5 Burial Ground		SAF No.: B02-065	Air Quality ☐	
Ice Chest No.: ERC 01-021	Field Logbook No.: EL 1395-6	COA: RG61852600	Method of Shipment: Federal Express		
Shipped To: TMA/RECRA	Offsite Property No.: A030 110		Bill of Lading/Air Bill No.: 7915 1697 0155		

POSSIBLE SAMPLE HAZARDS/REMARKS

Radioactive

SEE Attached Report

Special Handling and/or Storage

None

Preservation	None										
Type of Container	sG										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										

Sample No.	Matrix *	Sample Date	Sample Time										
J00CK2	OTHER SOLID	1-20-03	1252	X									
J00CK3	OTHER SOLID	1-20-03	1254	X									
~~J00CK4~~	~~OTHER SOLID~~	~~1-20-03~~	~~1258~~	~~X~~									
~~J00CK5~~	~~OTHER SOLID~~	~~1-20-03~~	~~1300~~	~~X~~									
J00CK6	OTHER SOLID	1-20-03	1302	X									

1-22-03

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Doug Bowers Bowers	1-20-03/1530	Rof 1A 3728	1-20-03/1530
1A 3728	1-22-03 1000	R. Fahlberg R. Fahlberg	1-22-03 1000
R. Fahlberg R. Fahlberg	1-22-03	Fed Ex	
Fed Ex	1-23-03/0915	[illegible]	1-23-03/0915

SPECIAL INSTRUCTIONS

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

Personnel not available to relinquish samples from the 3728 Ref # 1A on 1/22/03

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

14

BHI-EE-011 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B02-065-09	Page 1
Collector: Doug Bowers / Rob Fahlberg	Company Contact: Jeff Lerch; Telephone No.: 373-5904	Project Coordinator: KESSNER, JH	Price Code: 9J; Data Turnaround: 7 days
Project Designation: 618-5 Burial Ground - Anomalous Waste (Solids)	Sampling Location: 300-FF-1 618-5 Burial Ground	SAF No.: B02-065	Air Quality ☐
Ice Chest No.: ERC 01-021	Field Logbook No.: EL 1395-6; COA: RG61852600	Method of Shipment: Federal Express	
Shipped To: TMA/RECRA	Offsite Property No.: A030 110	Bill of Lading/Air Bill No.: 7915 1697 0155	

POSSIBLE SAMPLE HAZARDS/REMARKS
Radioactive
SEE Attached Report

Special Handling and/or Storage
None

Preservation	None										
Type of Container	aG										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	See item (1) in Special Instructions.										

Sample No.	Matrix *	Sample Date	Sample Time										
J00CK7	~~OTHER SOLID~~	1-20-03	1306	X									
J00CK8	~~OTHER SOLID~~	1-20-03	1308	X									
J00CK9	~~OTHER SOLID~~	1-20-03	1310	X									
J00CL0	~~OTHER SOLID~~	1-20-03	1312	X									
J00CL1	OTHER SOLID	1-20-03	1314	X									

1-22-03

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By/Removed From: Doug Bowers	Received By/Stored In: RFLA 3728	1-20-03 / 1530
Relinquished By/Removed From: 1A 3728	Received By/Stored In: R. Fahlberg	1-22-03 / 1000
Relinquished By/Removed From: ERC R. Fahlberg	Received By/Stored In: Fed Ex	1-22-03 / 1000
Relinquished By/Removed From: Fed Ex	Received By/Stored In: [illegible]	1-23-03 / 0915
Relinquished By/Removed From:	Received By/Stored In:	
Relinquished By/Removed From:	Received By/Stored In:	

SPECIAL INSTRUCTIONS

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

Personnel not available to relinquish samples from the 3728 Ref # 1A on 1/22/03

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

BHI-EE-011 (03/01/2002)

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LIONVILLE LABORATORY INCORPORATED

SAMPLE RECEIPT CHECKLIST

ENT: TNU Hanford

chase Order/Project:

DATE: 1-23-03

AF# / SOW# / Release #: B02-065

Laboratory SDG #: 03011560

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

1. Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
2. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
3. Airbill # recorded?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
5. Sample containers are intact?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
7. All samples on coc received?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
8. All sample label information matches coc?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	☐ No	☑ N/A	☐ see Comment #
10. Shipment meets LvLI Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	☐ Yes	☑ No	☐ N/A	☑ see Comment # 1
11. Where applicable, bar code labels are affixed to coc?	☐ Yes	☐ No	☑ N/A	☐ see Comment #
12. coc signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
13. coc will be faxed or emailed to client?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
14. Project Manager/Client contacted concerning discrepancies? (name/date)	☐ Yes	☐ No	☑ N/A	☐ see Comment #

Cooler # / temp (°C) and Comments:

ERC 01.021

#1 Samples rec'd @ 6.8°

Laboratory Sample Custodian: [signature]

Laboratory Project Manager: