0059204

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 ____H2069____ SAF-B02-065

Rad only X Chem only Rad & Chem

X Complete Partial

RECEIVED
APR 28 2003
EDMC

LIONVILLE LABORATORY INC.

14 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 #	0302L656
SDG #	H2069
SAF #	B02-065
Date Received	2-5-03
# Samples	5
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

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

FEB 2003

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B02-065 H2069

DATE RECEIVED: 02/05/03 LVL LOT # :0302L656

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00CN8						
TCLP	001	SO	03LTO016	01/31/03	02/06/03	02/07/03
J00CP0						
TCLP	002	SO	03LTO016	01/31/03	02/06/03	02/07/03
J00CP1						
TCLP	003	SO	03LTO016	01/31/03	02/06/03	02/07/03
J00CP2						
TCLP	004	SO	03LTO016	01/31/03	02/06/03	02/07/03
J00CP4						
TCLP	005	SO	03LTO016	01/31/03	02/06/03	02/07/03
J00CN8						
SILVER, TCLP LEACHAT	006	W	03L0068	02/07/03	02/10/03	02/10/03
SILVER, TCLP LEACHAT	006 REP	W	03L0068	02/07/03	02/10/03	02/10/03
ARSENIC, TCLP LEACHA	006	W	03L0068	02/07/03	02/10/03	02/10/03
ARSENIC, TCLP LEACHA	006 REP	W	03L0068	02/07/03	02/10/03	02/10/03
BARIUM, TCLP LEACHAT	006	W	03L0068	02/07/03	02/10/03	02/10/03
BARIUM, TCLP LEACHAT	006 REP	W	03L0068	02/07/03	02/10/03	02/10/03
CADMIUM, TCLP LEACHA	006	W	03L0068	02/07/03	02/10/03	02/10/03
CADMIUM, TCLP LEACHA	006 REP	W	03L0068	02/07/03	02/10/03	02/10/03
CHROMIUM, TCLP LEACH	006	W	03L0068	02/07/03	02/10/03	02/10/03
CHROMIUM, TCLP LEACH	006 REP	W	03L0068	02/07/03	02/10/03	02/10/03
MERCURY, TCLP LEACHA	006	W	03C0027	02/07/03	02/11/03	02/11/03
LEAD, TCLP LEACHATE	006	W	03L0068	02/07/03	02/10/03	02/10/03
LEAD, TCLP LEACHATE	006 REP	W	03L0068	02/07/03	02/10/03	02/10/03
SELENIUM, TCLP LEACH	006	W	03L0068	02/07/03	02/10/03	02/10/03
SELENIUM, TCLP LEACH	006 REP	W	03L0068	02/07/03	02/10/03	02/10/03

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B02-065 H2069

DATE RECEIVED: 02/05/03 LVL LOT # :0302L656

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00CP0						
SILVER, TCLP LEACHAT	007	W	03L0068	02/07/03	02/10/03	02/10/03
SILVER, TCLP LEACHAT	007 MS	W	03L0068	02/07/03	02/10/03	02/10/03
ARSENIC, TCLP LEACHA	007	W	03L0068	02/07/03	02/10/03	02/10/03
ARSENIC, TCLP LEACHA	007 MS	W	03L0068	02/07/03	02/10/03	02/10/03
BARIUM, TCLP LEACHAT	007	W	03L0068	02/07/03	02/10/03	02/10/03
BARIUM, TCLP LEACHAT	007 MS	W	03L0068	02/07/03	02/10/03	02/10/03
CADMIUM, TCLP LEACHA	007	W	03L0068	02/07/03	02/10/03	02/10/03
CADMIUM, TCLP LEACHA	007 MS	W	03L0068	02/07/03	02/10/03	02/10/03
CHROMIUM, TCLP LEACH	007	W	03L0068	02/07/03	02/10/03	02/10/03
CHROMIUM, TCLP LEACH	007 MS	W	03L0068	02/07/03	02/10/03	02/10/03
MERCURY, TCLP LEACHA	007	W	03C0027	02/07/03	02/11/03	02/11/03
MERCURY, TCLP LEACHA	007 REP	W	03C0027	02/07/03	02/11/03	02/11/03
MERCURY, TCLP LEACHA	007 MS	W	03C0027	02/07/03	02/11/03	02/11/03
LEAD, TCLP LEACHATE	007	W	03L0068	02/07/03	02/10/03	02/10/03
LEAD, TCLP LEACHATE	007 MS	W	03L0068	02/07/03	02/10/03	02/10/03
SELENIUM, TCLP LEACH	007	W	03L0068	02/07/03	02/10/03	02/10/03
SELENIUM, TCLP LEACH	007 MS	W	03L0068	02/07/03	02/10/03	02/10/03
J00CP1						
SILVER, TCLP LEACHAT	008	W	03L0068	02/07/03	02/10/03	02/10/03
ARSENIC, TCLP LEACHA	008	W	03L0068	02/07/03	02/10/03	02/10/03
BARIUM, TCLP LEACHAT	008	W	03L0068	02/07/03	02/10/03	02/10/03
CADMIUM, TCLP LEACHA	008	W	03L0068	02/07/03	02/10/03	02/10/03
CHROMIUM, TCLP LEACH	008	W	03L0068	02/07/03	02/10/03	02/10/03
MERCURY, TCLP LEACHA	008	W	03C0027	02/07/03	02/11/03	02/11/03
LEAD, TCLP LEACHATE	008	W	03L0068	02/07/03	02/10/03	02/10/03
SELENIUM, TCLP LEACH	008	W	03L0068	02/07/03	02/10/03	02/10/03
J00CP2						
SILVER, TCLP LEACHAT	009	W	03L0068	02/07/03	02/10/03	02/10/03
ARSENIC, TCLP LEACHA	009	W	03L0068	02/07/03	02/10/03	02/10/03
BARIUM, TCLP LEACHAT	009	W	03L0068	02/07/03	02/10/03	02/10/03
CADMIUM, TCLP LEACHA	009	W	03L0068	02/07/03	02/10/03	02/10/03

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B02-065 H2069

DATE RECEIVED: 02/05/03 LVL LOT # :0302L656

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM, TCLP LEACH	009	W	03L0068	02/07/03	02/10/03	02/10/03
MERCURY, TCLP LEACHA	009	W	03C0027	02/07/03	02/11/03	02/11/03
LEAD, TCLP LEACHATE	009	W	03L0068	02/07/03	02/10/03	02/10/03
SELENIUM, TCLP LEACH	009	W	03L0068	02/07/03	02/10/03	02/10/03
J00CP4						
SILVER, TCLP LEACHAT	010	W	03L0068	02/07/03	02/10/03	02/10/03
ARSENIC, TCLP LEACHA	010	W	03L0068	02/07/03	02/10/03	02/10/03
BARIUM, TCLP LEACHAT	010	W	03L0068	02/07/03	02/10/03	02/10/03
CADMIUM, TCLP LEACHA	010	W	03L0068	02/07/03	02/10/03	02/10/03
CHROMIUM, TCLP LEACH	010	W	03L0068	02/07/03	02/10/03	02/10/03
MERCURY, TCLP LEACHA	010	W	03C0027	02/07/03	02/11/03	02/11/03
LEAD, TCLP LEACHATE	010	W	03L0068	02/07/03	02/10/03	02/10/03
SELENIUM, TCLP LEACH	010	W	03L0068	02/07/03	02/10/03	02/10/03

LAB QC:

SILVER LABORATORY	LC1 BS	W	03L0068	N/A	02/10/03	02/10/03
SILVER, TCLP LEACHAT	MB1	W	03L0068	N/A	02/10/03	02/10/03
SILVER, TCLP LEACHAT	MB2	W	03L0068	N/A	02/10/03	02/10/03
ARSENIC LABORATORY	LC1 BS	W	03L0068	N/A	02/10/03	02/10/03
ARSENIC, TCLP LEACHA	MB1	W	03L0068	N/A	02/10/03	02/10/03
ARSENIC, TCLP LEACHA	MB2	W	03L0068	N/A	02/10/03	02/10/03
BARIUM LABORATORY	LC1 BS	W	03L0068	N/A	02/10/03	02/10/03
BARIUM, TCLP LEACHAT	MB1	W	03L0068	N/A	02/10/03	02/10/03
BARIUM, TCLP LEACHAT	MB2	W	03L0068	N/A	02/10/03	02/10/03
CADMIUM LABORATORY	LC1 BS	W	03L0068	N/A	02/10/03	02/10/03
CADMIUM, TCLP LEACHA	MB1	W	03L0068	N/A	02/10/03	02/10/03
CADMIUM, TCLP LEACHA	MB2	W	03L0068	N/A	02/10/03	02/10/03
CHROMIUM LABORATORY	LC1 BS	W	03L0068	N/A	02/10/03	02/10/03
CHROMIUM, TCLP LEACH	MB1	W	03L0068	N/A	02/10/03	02/10/03
CHROMIUM, TCLP LEACH	MB2	W	03L0068	N/A	02/10/03	02/10/03
MERCURY LABORATORY	LC1 BS	W	03C0027	N/A	02/11/03	02/11/03
MERCURY, TOTAL	MB1	W	03C0027	N/A	02/11/03	02/11/03
MERCURY, TCLP LEACHA	MB2	W	03C0027	N/A	02/11/03	02/11/03
LEAD LABORATORY	LC1 BS	W	03L0068	N/A	02/10/03	02/10/03
LEAD, TCLP LEACHATE	MB1	W	03L0068	N/A	02/10/03	02/10/03

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B02-065 H2069

DATE RECEIVED: 02/05/03 LVL LOT # :0302L656

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LEAD, TCLP LEACHATE	MB2	W	03L0068	N/A	02/10/03	02/10/03
SELENIUM LABORATORY	LC1 BS	W	03L0068	N/A	02/10/03	02/10/03
SELENIUM, TCLP LEACH	MB1	W	03L0068	N/A	02/10/03	02/10/03
SELENIUM, TCLP LEACH	MB2	W	03L0068	N/A	02/10/03	02/10/03

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B02-065
LVL#: 0302L656
SDG/SAF#: H2069/B02-065

W.O.#: 11343-606-001-9999-00
Date Received: 02-05-03

METALS CASE NARRATIVE

1. This narrative covers the analyses of 5 TCLP leachate samples.

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 results presented in this report are derived from samples that met LvLI's sample acceptance policy.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits with the exception of the final CCV for Cadmium in file PS0210B. All samples were surrounded by CCVs in control.

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 analysis for 1 analyte was outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

11. The TCLP extract from sample J00CP0 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 18 pages.

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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.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

02-14-03
Date

gmb/m02-656

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#: 03021656

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:_____

L-WI-033/M-03/01

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 02/14/03

CLIENT: TNUHANFORD B02-065 H2069 LVL LOT #: 0302L656

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	J00CN8	Silver, TCLP Leachate	6.1		UG/L	3.3	1.0
		Arsenic, TCLP Leachate	39.1	u	UG/L	39.1	1.0
		Barium, TCLP Leachate	224		UG/L	3.7	1.0
		Cadmium, TCLP Leachate	145		UG/L	4.8	1.0
		Chromium, TCLP Leachate	5.3	u	UG/L	5.3	1.0
		Mercury, TCLP Leachate	0.12		UG/L	0.10	1.0
		Lead, TCLP Leachate	214		UG/L	34.9	1.0
		Selenium, TCLP Leachate	70.3	u	UG/L	70.3	1.0
-007	J00CP0	Silver, TCLP Leachate	3.3	u	UG/L	3.3	1.0
		Arsenic, TCLP Leachate	39.1	u	UG/L	39.1	1.0
		Barium, TCLP Leachate	348		UG/L	3.7	1.0
		Cadmium, TCLP Leachate	79.2		UG/L	4.8	1.0
		Chromium, TCLP Leachate	5.6		UG/L	5.3	1.0
		Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0
		Lead, TCLP Leachate	107		UG/L	34.9	1.0
		Selenium, TCLP Leachate	70.3	u	UG/L	70.3	1.0
-008	J00CP1	Silver, TCLP Leachate	3.3	u	UG/L	3.3	1.0
		Arsenic, TCLP Leachate	39.1	u	UG/L	39.1	1.0
		Barium, TCLP Leachate	249		UG/L	3.7	1.0
		Cadmium, TCLP Leachate	172		UG/L	4.8	1.0
		Chromium, TCLP Leachate	8.6		UG/L	5.3	1.0
		Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0
		Lead, TCLP Leachate	300		UG/L	34.9	1.0
		Selenium, TCLP Leachate	70.3	u	UG/L	70.3	1.0
-009	J00CP2	Silver, TCLP Leachate	4.8		UG/L	3.3	1.0
		Arsenic, TCLP Leachate	51.9		UG/L	39.1	1.0
		Barium, TCLP Leachate	168		UG/L	3.7	1.0
		Cadmium, TCLP Leachate	21.9		UG/L	4.8	1.0
		Chromium, TCLP Leachate	6.6		UG/L	5.3	1.0
		Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0
		Lead, TCLP Leachate	63.7		UG/L	34.9	1.0
		Selenium, TCLP Leachate	70.3	u	UG/L	70.3	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/14/03

CLIENT: TNUHANFORD B02-065 H2069 LVL LOT #: 0302L656

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-010	J00CP4	Silver, TCLP Leachate	3.3	u	UG/L	3.3	1.0
		Arsenic, TCLP Leachate	39.1	u	UG/L	39.1	1.0
		Barium, TCLP Leachate	346		UG/L	3.7	1.0
		Cadmium, TCLP Leachate	8.6		UG/L	4.8	1.0
		Chromium, TCLP Leachate	5.3	u	UG/L	5.3	1.0
		Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0
		Lead, TCLP Leachate	34.9	u	UG/L	34.9	1.0
		Selenium, TCLP Leachate	70.3	u	UG/L	70.3	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 02/14/03

CLIENT: TNUHANFORD B02-065 H2069

LVL LOT #: 0302L656

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	03L0068-MB1	Silver, TCLP Leachate	3.3	u	UG/L	3.3	1.0
		Arsenic, TCLP Leachate	39.1	u	UG/L	39.1	1.0
		Barium, TCLP Leachate	3.7	u	UG/L	3.7	1.0
		Cadmium, TCLP Leachate	4.8	u	UG/L	4.8	1.0
		Chromium, TCLP Leachate	5.3	u	UG/L	5.3	1.0
		Lead, TCLP Leachate	38.5		UG/L	34.9	1.0
		Selenium, TCLP Leachate	70.3	u	UG/L	70.3	1.0
BLANK2	03L0068-MB2	Silver, TCLP Leachate	3.3	u	UG/L	3.3	1.0
		Arsenic, TCLP Leachate	39.1	u	UG/L	39.1	1.0
		Barium, TCLP Leachate	3.7	u	UG/L	3.7	1.0
		Cadmium, TCLP Leachate	4.8	u	UG/L	4.8	1.0
		Chromium, TCLP Leachate	5.3	u	UG/L	5.3	1.0
		Lead, TCLP Leachate	34.9	u	UG/L	34.9	1.0
		Selenium, TCLP Leachate	70.3	u	UG/L	70.3	1.0
BLANK1	03C0027-MB1	Mercury, Total	0.10	u	UG/L	0.10	1.0
BLANK2	03C0027-MB2	Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 02/14/03

CLIENT: TNUHANFORD B02-065 H2069 LVL LOT #: 0302L656

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-007	J00CP0	Silver, TCLP Leachate	4220	3.3 u	5000	84.3	1.0
		Arsenic, TCLP Leachate	4450	39.1 u	5000	88.9	1.0
		Barium, TCLP Leachate	87000	348	100000	86.6	1.0
		Cadmium, TCLP Leachate	914	79.2	1000	83.5	1.0
		Chromium, TCLP Leachat	4230	5.6	5000	84.4	1.0
		Mercury, TCLP Leachate	175	0.10u	200	87.4	50.0
		Lead, TCLP Leachate	4260	107	5000	83.0	1.0
		Selenium, TCLP Leachat	946	70.3 u	1000	94.6	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 02/14/03

CLIENT: TNUHANFORD B02-065 H2069 LVL LOT #: 0302L656

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-006REP	J00CN8	Silver, TCLP Leachate	6.1	3.7	49.0	1.0
		Arsenic, TCLP Leachate	39.1 u	39.1 u	NC	1.0
		Barium, TCLP Leachate	224	217	2.9	1.0
		Cadmium, TCLP Leachate	145	148	2.0	1.0
		Chromium, TCLP Leachate	5.3 u	5.3 u	NC	1.0
		Lead, TCLP Leachate	214	211	1.6	1.0
		Selenium, TCLP Leachate	70.3 u	70.3 u	NC	1.0
-007REP	J00CP0	Mercury, TCLP Leachate	0.10u	0.10u	NC	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 02/14/03

CLIENT: TNUHANFORD B02-065 H2069 LVL LOT #: 0302L656

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	03L0068-LC1	Silver, LCS	473	500	UG/L	94.7
		Arsenic, LCS	9620	10000	UG/L	96.2
		Barium, LCS	5000	5000	UG/L	100
		Cadmium, LCS	230	250	UG/L	92.0
		Chromium, LCS	501	500	UG/L	100.1
		Lead, LCS	2340	2500	UG/L	93.4
		Selenium, LCS	9470	10000	UG/L	94.7
LCS1	03C0027-LC1	Mercury, LCS	4.9	5.0	UG/L	98.7

Lionville Laboratory Use Only

0302L656

Custody Transfer Record/Lab Work Order

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LYLI 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: Arlette Johnson

QC: Spec. Del: Std. TAT: 7 day

Date Rec'd: 2.5.03 Date Due: 02/12/03

		A																
Refrigerator #										5								
#/Type Container	Liquid																	
	Solid									1qg								
Volume	Liquid																	
	Solid									60								
Preservatives										-								
ANALYSES REQUESTED →		ORGANIC								INORG								
		VOA	BNA	Pest/PCB	Herb					Cr Metal	CN	TCLP	Leachate					
		Lionville Laboratory Use Only																
										TCLP			RCRA-TCLP					

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															
001	J00CN8			SO	1.31.03	0930							X								
002	J00CP0					0936							X								
003	J00CP1					0938							X								
004	J00CP2					0942							X								
005	J00CP4					0948							X								
006	J00CN8 tclp of 001			L	*											✓					
007	J00CP0 002															✓					
008	J00CP1 003															✓					
009	J00CP2 004															✓					
010	J00CP4 005															✓					

Special Instructions:

Saf # B02 065

Run matrix QC

DATE/REVISIONS:

* 1. See labchron.

2.

3.

4.

5.

6.

Lionville Laboratory Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___
Airbill # 7901 9780 9079
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. 0.8 °C

Relinquished by	Received by	Date	Time
[illegible]	D. Smith	2.5.03	0920

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN	COMPOSITE WASTE		

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 of 1
Collector: Doug Bowers	Company Contact: Jeff Lerch; Telephone No.: 373-5904	Project Coordinator: KESSNER, JH	Price Code: 9J; Data Turnaroun
Project Designation: 618-5 Burial Ground - Anomalous Waste (Solids)	Sampling Location: 300-FF-1 618-5 Burial Ground	SAF No.: B02-065	Air Quality ☐; 7 day
Ice Chest No.: ERC 01-061	Field Logbook No.: EL 1395-6; COA: RG61852600	Method of Shipment: Federal Express	
Shipped To: TMA/RECRA	Offsite Property No.: ~~NA~~ 2403 ~~NA~~ A030126	Bill of Lading/Air Bill No.: SEE OSPC	

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										
~~J00CP3~~	~~OTHER SOLID~~	~~1-31-03~~	~~0944~~	~~X~~	NA 2403								
J00CP4	OTHER SOLID	1-31-03	0948	X									
~~J00CP5~~	~~OTHER SOLID~~	~~1-31-03~~	~~0950~~	~~X~~	NA 2403								
	OTHER SOLID												
	OTHER SOLID												

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Doug Bowers	1-30-03/1545	REF 1A 3728	1-30-03/1545
REF 1A 3728	2403 1030	SJ GALE	2403 1030
SJ GALE	2403 1030	FED EX	
Fed Ex	2-5-03/0920		2-5-03/0920

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 2/4/03

Matrix: S=Soil; SE=Sediment; SO=Solid; SI=Sludge; W=Water; O=Oil; A=Air; DS=Drum; DL=Drum; 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)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B02-065-09	Page 1 of 2

Collector: Doug Bowers	Company Contact: Jeff Lerch	Telephone No.: 373-5904	Project Coordinator: KESSNER, JH
Price Code: 9 J	Data Turnaround: 7 day	Air Quality: ☐	
Project Designation: 618-5 Burial Ground - Anomalous Waste (Solids)	Sampling Location: 300-FF-1 618-5 Burial Ground		SAF No.: B02-065
Ice Chest No.: GRC-01-061	Field Logbook No.: EL 1395-6	COA: RG61852600	Method of Shipment: Federal Express
Shipped To: TMA/RECRA	Offsite Property No.: A030126		Bill of Lading/Air Bill No.: SEG OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS
Radioactive
Tie To 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										
J00CN8	OTHER SOLID	1-31-03	0930	X									
~~J00CN9~~	~~OTHER SOLID~~	~~1-31-03~~	~~0932~~	~~X~~	402403								
J00CP0	OTHER SOLID	1-31-03	0936	X									
J00CP1	OTHER SOLID	1-31-03	0938	X									
J00CP2	OTHER SOLID	1-31-03	0942	X									

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By/Removed From: DOE	Doug Bowers / Bowers	1-30-03 / 1545
Received By/Stored In: REF 1A 3728		1-30-03 / 1545
Relinquished By/Removed From: REF 1A 2403		1030
Received By/Stored In: SIGALE		2403 1030
Relinquished By/Removed From: SIGALE		2403 1030
Received By/Stored In: FED EX		
Relinquished By/Removed From: Fed Ex		2-5-03 / 0930
Received By/Stored In:		2-5-03 / 0930
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 2/4/03

Matr
S=Soil
SE=Sed
SO=Sol
SI=Slud
W = W
O=Oil
A=Air
DS=Dr
DL=Dr
T=Tiss
WI=Wi
L=Liqu
V=Veg
X=Oth

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

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

LIONVILLE LABORATORY INCORPORATED
SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hanford

Purchase Order/Project:

DATE: 2-5-03

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

Laboratory SDG #: 03024656

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 #
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-01-061 / 0.8°C

Laboratory Sample Custodian: [signature]

Laboratory Project Manager: