0057849 H1797

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B02-059 H1797

DATE RECEIVED: 05/30/02 LVL LOT # :0205L803

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B14R98						
LEAD, TOTAL	001	W	02L0290	05/23/02	06/04/02	06/06/02
LEAD, TOTAL	001 REP	W	02L0290	05/23/02	06/04/02	06/06/02
LEAD, TOTAL	001 MS	W	02L0290	05/23/02	06/04/02	06/06/02
LAB QC:						
LEAD LABORATORY	LC1 BS	W	02L0290	N/A	06/04/02	06/05/02
LEAD, TOTAL	MB1	W	02L0290	N/A	06/04/02	06/05/02

RECEIVED
AUG 12 2002
EDMC

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B02-059
LVL#: 0205L803
SDG/SAF#: H1797/B02-059

W.O.#: 11343-606-001-9999-00
Date Received: 05-30-02

METALS CASE NARRATIVE

1. This narrative covers the analysis of 1 water sample.

2. The sample was prepared and analyzed in accordance with methods checked on the attached glossary.

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. The preparation/method blank (MB) was 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. The laboratory control sample (LCS) was within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.

10. The matrix spike (MS) recovery was within the 75-125% control limits. Refer to the Inorganics Accuracy Report.

11. The duplicate analysis was within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 14 pages.

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

6/12/05
Date

gmb/m05-803

LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Lot#: 02052803

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:_____

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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.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 06/13/02

CLIENT: TNUHANFORD B02-059 M1797 LVL LOT #: 0205L003

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B14R98	Lead, Total	1300	UG/L	1.7	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/13/02

CLIENT: TNUHANFORD E02-059 H1797 LVL LOT #: 0205L803

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	02L0290-MB1	Lead, Total	9.0	UG/L	1.7	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 06/13/02

CLIENT: TWURANFORD B02-059 H1797 LVL LOT #: 0205L803

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV.	DILUTION FACTOR(SPK)
-001	B14R98	Lead, Total	1890	1300	500	118.2	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 06/11/02

CLIENT: TMUHANFORD B02-089 H1797 LVL LOT #: 0205L603

WORK ORDER: 11363-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B14R98	Lead, Total	1300	1310	0.89	1.0

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Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 06/13/02

CLIENT: TNUHANFORD B02-059 H1797 LVL LOT #: 0205L803

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	02L0290-LC1	Lead, LCS	2500	2500	UG/L	99.8

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Lionville Laboratory Use Only

22056803

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

Client TNU - HANFORD SAF # B02-059

Est. Final Proj. Sampling Date

Project # 11343-606-001-9999-00

Project Contact/Phone #

Lionville Laboratory Project Manager OJ

QC SPEC Del STD TAT 15 days

Date Rec'd 5-30-02 Date Due 6-14-02

Refrigerator #										A								
#Type Container	Liquid									6								
	Solid									VPL								
Volume	Liquid									STD								
	Solid																	
Preservative										HNO3								
ANALYSES REQUESTED →		ORGANIC								INORG								
		VOA	BNA	Pest/PCB	Herb					Metal	CN							
		Lionville Laboratory Use Only																
										MBBTO								

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	B14R98	✓	✓	W	5-23-02	1000								1					

Special Instructions: SAF # B02-059

DATE/REVISIONS:
1. Sample label indicates that
2. its not preserved but sample
3. is.
4.
5.
6.

Lionville Laboratory Use Only

Samples were:
1) Shipped ___ or
Hand Delivered ___
Airbill # SEE BELOW
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. 6.9 °C

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

811511013993

Relinquished by	Received by	Date	Time
FEDEX	[illegible]	5-30-02	1445

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B02-059-02	Page 1 of 1

Collector: R. Nielson/J. Gale	Company Contact: Mary Todd	Telephone No.: 372-9631	Project Coordinator: TRENT, SJ
Price Code: 9K	Data Turnaround: 15 Days	Air Quality ☐	
Project Designation: Damaged Battery Waste Designation Sampling	Sampling Location: 200 West	SAF No.: B02-059	
Ice Chest No.: 4GV	Field Logbook No.: EL-1562-1	COA: B20TW167WC	Method of Shipment: Federal Express
Shipped To: TMA/RECRA	Offsite Property No.: HMSR 0010168	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS
pH 0.0 – 0.5
TIE TO B14R97

Special Handling and/or Storage
None

Preservation	None											
Type of Container	P											
No. of Container(s)	1											
Volume	500mL											
SAMPLE ANALYSIS	ICP Metals - 6010A (Add-on) (Lead)											

Sample No.	Matrix *	Sample Date	Sample Time										
B14R98	OTHER LIQUID	5/23/02	1000	X								B14R97	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: [illegible]/R. Nielson	Date/Time: 1120 5/23/02	Received By/Stored In: RCC # 2B	Date/Time: 5/23/02 1120
Relinquished By/Removed From: Ref. 2B 3728	Date/Time: 0900 5-29-02	Received By/Stored In: R. Fallon / R. Fahlberg	Date/Time: 0900 5-29-02
Relinquished By/Removed From: EPC R. Fallon / R. Fahlberg	Date/Time: 0900 5-29-02	Received By/Stored In: Fed Ex	Date/Time:
Relinquished By/Removed From: FEDEX	Date/Time: 5-30-02 1445	Received By/Stored In: [illegible]	Date/Time: 5-30-02 1445
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

SPECIAL INSTRUCTIONS
None

Matrix *
S=Soil
SD=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
RS=Rags
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)

LIONVILLE LABORATORY INCORPORATED

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU-Hanford

Purchase Order/Project:

DATE: 5.30-02

SAF# / SOW# / Release #: B02-059

Laboratory SDG #: 0205L803

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 # 1
9.	Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	☐ No	☑ N/A	☐ see Comment #
10.	Shipment meets LvLJ 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 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 and Comments:

SAEK

1511013993

Laboratory Sample Custodian: [signature]

Laboratory Project Manager:

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SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 02L0290
Date/Time Initiated: 06/04/02
Date/Time Completed: 06/04/02
Analyst(s): RMP
Matrix: Soil Water Other:
Instr. Type: AA ICP
Parameters: See Backlog

Digested / Undigested (circle one)
Balance #: N/A
Balance Cal Verif: Y N/A
Hot Plate Temp: 92°C

Method: SW (circle)
3005A
3010A
3015
3020A
7060A (As/Se)
7760A (Ag)
3050B
3051

DW 200.7 (1994)
200.9
3113B

MCAWW 200.7 (1982)
200 (AA)
206.2 (As/Se)

SM 3030C (NC)

CLP ILMO3.0
ILMO4.0

Other

TN4/Weskem

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
0205L733-001		100	100	<2	Tot	N/A	Cloudy	N/A	N/A
-001R									
-001S	1.0								
0205L803-001							Clear		
-001R									
-001S	1.0								
0205L778-013									
0205L780-033									
-094									
0205L624-001									
0205L724-001									
0205L725-001									
02L0290-MB1				N/A					
-LC1	1.0								

Mollol
06-04-02

Spiking IDs:
MS #: 8100-02-05
-06
-07
6072-48-14
LCS #: 6072-49-05
-06
-07
-08

Reagent IDs:
HNO_3 X08043
HCL 2612V27006
H_2O_2 6/5/02
1:1 HNO_3 8728-025-02
1:1 HCL 8727-025-03

File ID#: IL029001
LIMS Transfer: Y N updated
Data Review By/Date: upp 6/7/02