0059364

SAF-B00-031
100 F Area - Other Solid (quick turn)
FINAL DATA PACKAGE

FAX RESULTS TO:

Mike Stankovich ___N/A___
INITIAL/DATE

VERIFICATION OF CLIENT RECEIPT:

Phone or CC:Mail to Mike Stankovich ___N/A___
INITIAL/DATE

COMPLETE COPY OF DATA PACKAGE TO:

Mike Stankovich H9-02 BJ 3/26/03
INITIAL/DATE

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

SDG ___H2095___ SAF-B00-031

Rad only X Chem only Rad & Chem

X Complete Partial

WASTE SITE: 100-F

RECEIVED
MAY 19 2003
EDMC

LIONVILLE LABORATORY INC.

18 March 2003

RECEIVED MAR 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 #	0303L891
SDG #	H2095
SAF #	B00-0~~29~~ 31
Date Received	3-7-03
# Samples	1
Matrix	Other Solid
Volatiles	
Semivolatiles	
Pest/PCB	
DRO	
GRO	
Metals	X
Inorganics	~~X~~ 3/20/03

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

RECEIVED
MAR 2003

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B00-031 H2095

DATE RECEIVED: 03/07/03 LVL LOT # :0303L891

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00HY2						
ARSENIC, TOTAL	001	SO	03L0125	03/06/03	03/10/03	03/11/03
ARSENIC, TOTAL	001 REP	SO	03L0125	03/06/03	03/10/03	03/11/03
ARSENIC, TOTAL	001 MS	SO	03L0125	03/06/03	03/10/03	03/11/03
CHROMIUM, TOTAL	001	SO	03L0125	03/06/03	03/10/03	03/11/03
CHROMIUM, TOTAL	001 REP	SO	03L0125	03/06/03	03/10/03	03/11/03
CHROMIUM, TOTAL	001 MS	SO	03L0125	03/06/03	03/10/03	03/11/03
MERCURY, TOTAL	001	SO	03C0049	03/06/03	03/13/03	03/14/03
MERCURY, TOTAL	001 REP	SO	03C0049	03/06/03	03/13/03	03/14/03
MERCURY, TOTAL	001 MS	SO	03C0049	03/06/03	03/13/03	03/14/03
LEAD, TOTAL	001	SO	03L0125	03/06/03	03/10/03	03/11/03
LEAD, TOTAL	001 REP	SO	03L0125	03/06/03	03/10/03	03/11/03
LEAD, TOTAL	001 MS	SO	03L0125	03/06/03	03/10/03	03/11/03

LAB QC:

ARSENIC LABORATORY	LC1 BS	S	03L0125	N/A	03/10/03	03/11/03
ARSENIC, TOTAL	MB1	S	03L0125	N/A	03/10/03	03/11/03
CHROMIUM LABORATORY	LC1 BS	S	03L0125	N/A	03/10/03	03/11/03
CHROMIUM, TOTAL	MB1	S	03L0125	N/A	03/10/03	03/11/03
MERCURY LABORATORY	LC1 BS	S	03C0049	N/A	03/13/03	03/14/03
MERCURY, TOTAL	MB1	S	03C0049	N/A	03/13/03	03/14/03
LEAD LABORATORY	LC1 BS	S	03L0125	N/A	03/10/03	03/11/03
LEAD, TOTAL	MB1	S	03L0125	N/A	03/10/03	03/11/03

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B00-031
LVL#: 0303L891
SDG/SAF#: H2095/B00-031

W.O.#: 11343-606-001-9999-00
Date Received: 03-07-03

METALS CASE NARRATIVE

1. This narrative covers the analyses of 1 solid sample.

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 (80-120% for Mercury).

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), 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 matrix spike (MS) recovery for 1 analyte was outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.

11. For analytes where the ICP MS is out-of-control, a post-digestion MS (PDS) and serial dilution are performed. A PDS was prepared at meaningful concentration level for the following analytes:

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 13 pages.

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J00HY2	Lead	200	101.1

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

13. 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.

14. 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

03-18-03
Date

jjw/m03-891

LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Lot#: 0303L89 1

Leaching Procedure: __1310 __1311 __1312 __Other:_____

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

Metals Digestion Methods: __3005A __3010A __3015 __3020A X 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	X 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	X 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	X 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]	X 7471A [3]	__245.1 [3]	__245.5 [3]			__99
Molybdenum	__6010B		__200.7				__99
Nickel	__6010B		__200.7				__99
Potassium	__6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	__6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	__6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	__6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B		__200.7				__99
Thallium	__6010B	__7841 [5]	__200.7	__279.2__200.9			__99
Tin	__6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	__6010B [1]		__200.7 [1]			__1620	__99
Vanadium	__6010B		__200.7				__99
Zinc	__6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ **Method:**_____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.

2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/17/03

CLIENT: TNUHANFORD B00-031 H2095 LVL LOT #: 0303L891

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J00HY2	Arsenic, Total	4.4	MG/KG	0.34	1.0
		Chromium, Total	11.9	MG/KG	0.06	1.0
		Mercury, Total	0.02	MG/KG	0.02	1.0
		Lead, Total	40.9	MG/KG	0.25	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 03/17/03

CLIENT: TNUHANFORD B00-031 H2095 LVL LOT #: 0303L891

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	03L0125-MB1	Arsenic, Total	0.35 u	MG/KG	0.35	1.0
		Chromium, Total	0.08	MG/KG	0.06	1.0
		Lead, Total	0.26 u	MG/KG	0.26	1.0
BLANK1	03C0049-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 03/17/03

CLIENT: TNUHANFORD B00-031 H2095

LVL LOT #: 0303L891

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J00HY2	Arsenic, Total	194	4.4	203	93.7	1.0
		Chromium, Total	32.8	11.9	20.3	103.0	1.0
		Mercury, Total	0.17	0.02	0.15	98.7	1.0
		Lead, Total	76.4	40.9	50.6	70.2	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 03/17/03

CLIENT: TNUHANFORD B00-031 M2095 LVL LOT #: 0303L891

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J00HY2	Arsenic, Total	4.4	3.9	12.0	1.0
		Chromium, Total	11.9	13.3	11.1	1.0
		Mercury, Total	0.02	0.02	0.00	1.0
		Lead, Total	40.9	28.1	37.1	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 03/17/03

CLIENT: TNUHANFORD B00-031 M2095 LVL LOT #: 0303L891

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	03L0125-LC1	Arsenic, LCS	946	1000	MG/KG	94.6
		Chromium, LCS	50.7	50.0	MG/KG	101.4
		Lead, LCS	243	250	MG/KG	97.2
LCS1	03C0049-LC1	Mercury, LCS	7.5	6.2	MG/KG	120.4

Lionville Laboratory Use Only

03031891

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU Hanford B00-031

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: 21 days

Date Rec'd: 3-7-03 Date Due: 3-28-03

		A
Refrigerator #		6
#/Type Container	Liquid	
	Solid	1oz
Volume	Liquid	
	Solid	60
Preservatives		—

ANALYSES REQUESTED →

ORGANIC				INORG	
VOA	BNA	Pes/PCB	Herb	ICP Metal	CN
				MET ①	

Lionville Laboratory Use Only

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	ICP Metal
001	JOOHY2	X	X	SO	3-6-03	0740	X

Special Instructions: SAF # B00-031

DATE/REVISIONS:
MET ① 1. As, Cr, Pb, Hg
2.
3.
4.
5.
6.

Lionville Laboratory Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___ Airbill # 7903 2357 5312
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. 0.9 °C

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

Relinquished by	Received by	Date	Time
[illegible]	D. Smith	3-7-03	0940

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B00-031-25	Page 1 of 1
Collector: GALE, SJ / Fahlberg	Company Contact: Mike Stankovich	Telephone No.: 509-531-7620	Project Coordinator: TRENT, SJ	Price Code: Air Quality = 21 DAY; Data Turnaround
Project Designation: 100 F Area - Other Solid (quick turn)	Sampling Location: 100 F		SAF No.: B00-031	
Ice Chest No.: ERC-02-006	Field Logbook No.: EI-1535-7	COA: R11FX18000	Method of Shipment: FED EX	
Shipped To: TMA/RECRA	Offsite Property No.: ~~NA~~ A030140		Bill of Lading/Air Bill No.: ~~NA~~ SGE ODPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

~~Radioactive~~ R.F. 3.6.03

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										
J00HY2	OTHER SOLID	3.6.03	0740	X									

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From: R Fahlberg	Date/Time: 1430 3.6.03	Received By/Stored In: Fed Ex	Date/Time
Relinquished By/Removed From: [signature]	Date/Time: 3.7.03/0940	Received By/Stored In: [signature]	Date/Time: 3.7.03/0940
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
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

(1) ICP Metals - 6010A (Supertrace) (Arsenic, Chromium, Lead); Mercury - 7471 - (CV)

Samples did not originate in radiological controlled area. No total activity associated with sample/samples.

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

BHLEF-011 (03/01/2002)

LIONVILLE LABORATORY

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hanford

Purchase Order/Project:

DATE: 3-7-03

SAF# / SOW# / Release #: BOG-031

Laboratory SDG #: 0303L891

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-02-0061 0.9°C

Laboratory Sample Custodian: D. Smith

Laboratory Project Manager: