0059549

SAF-B00-029
100 F Area - 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 BL 4/23
INITIAL/DATE

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

SDG ____H2157____ SAF-B00-029

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Site: UPR-100-F-3

RECEIVED
MAY 30 2003
EDMC

LIONVILLE LABORATORY INC.

17 April 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 #	0304L144
SDG #	H2157
SAF #	B00-029
Date Received	4-10-03
# Samples	1
Matrix	Soil
Volatiles	
Semivolatiles	
Pest/PCB	
DRO/KRO/GRO	
GC Alcohols	
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 APR 2003

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

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RECEIVED
APR 2003

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B00-029 H2157

DATE RECEIVED: 04/10/03 LVL LOT # :0304L144

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00LB0						
ARSENIC, TOTAL	001	S	03L0192	04/09/03	04/10/03	04/10/03
ARSENIC, TOTAL	001 REP	S	03L0192	04/09/03	04/10/03	04/10/03
ARSENIC, TOTAL	001 MS	S	03L0192	04/09/03	04/10/03	04/10/03
ARSENIC, TOTAL	001 MSD	S	03L0192	04/09/03	04/10/03	04/10/03
CHROMIUM, TOTAL	001	S	03L0192	04/09/03	04/10/03	04/10/03
CHROMIUM, TOTAL	001 REP	S	03L0192	04/09/03	04/10/03	04/10/03
CHROMIUM, TOTAL	001 MS	S	03L0192	04/09/03	04/10/03	04/10/03
CHROMIUM, TOTAL	001 MSD	S	03L0192	04/09/03	04/10/03	04/10/03
MERCURY, TOTAL	001	S	03C0079	04/09/03	04/10/03	04/10/03
MERCURY, TOTAL	001 REP	S	03C0079	04/09/03	04/10/03	04/10/03
MERCURY, TOTAL	001 MS	S	03C0079	04/09/03	04/10/03	04/10/03
LEAD, TOTAL	001	S	03L0192	04/09/03	04/10/03	04/10/03
LEAD, TOTAL	001 REP	S	03L0192	04/09/03	04/10/03	04/10/03
LEAD, TOTAL	001 MS	S	03L0192	04/09/03	04/10/03	04/10/03
LEAD, TOTAL	001 MSD	S	03L0192	04/09/03	04/10/03	04/10/03

LAB QC:

ARSENIC LABORATORY	LC1 BS	S	03L0192	N/A	04/10/03	04/10/03
ARSENIC, TOTAL	MB1	S	03L0192	N/A	04/10/03	04/10/03
CHROMIUM LABORATORY	LC1 BS	S	03L0192	N/A	04/10/03	04/10/03
CHROMIUM, TOTAL	MB1	S	03L0192	N/A	04/10/03	04/10/03
MERCURY LABORATORY	LC1 BS	S	03C0079	N/A	04/10/03	04/10/03
MERCURY, TOTAL	MB1	S	03C0079	N/A	04/10/03	04/10/03
LEAD LABORATORY	LC1 BS	S	03L0192	N/A	04/10/03	04/10/03
LEAD, TOTAL	MB1	S	03L0192	N/A	04/10/03	04/10/03

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B00-029
LVL#: 0304L144
SDG/SAF#: H2157/B00-029

W.O.#: 11343-606-001-9999-00
Date Received: 04-10-03

METALS CASE NARRATIVE

1. This narrative covers the analyses of 1 soil 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. All matrix spike (MS) and matrix spike duplicate (MSD) recoveries were within the 75-125% control limits. Refer to the Inorganics Accuracy Report.

11. All MSs and MSDs were within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Matrix Spike Duplicate Report.

12. All duplicate analyses were 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.

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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.

for Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

04-15-03
Date

jjw/m04-144

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Lot#: 0304L144

Leaching Procedure: __1310 __1311 __1312 __Other:_____

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

Metals Digestion Methods: __3005A __3010A __3015 __3020A X3050B __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	__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	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	__7470A [3]	X7471A [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, 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 04/11/03

CLIENT: TNU-HANFORD B00-029 LVL LOT #: 0304L144

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J00LB0	Arsenic, Total	2.2	MG/KG	0.36	1.0
		Chromium, Total	11.2	MG/KG	0.06	1.0
		Mercury, Total	0.03	MG/KG	0.02	1.0
		Lead, Total	5.7	MG/KG	0.27	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/11/03

CLIENT: TNU-HANFORD B00-029

LVL LOT #: 0304L144

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	03L0192-MB1	Arsenic, Total	0.35 u	MG/KG	0.35	1.0
		Chromium, Total	0.16	MG/KG	0.06	1.0
		Lead, Total	0.26 u	MG/KG	0.26	1.0
BLANK1	03C0079-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 04/11/03

CLIENT: TNU-HANFORD B00-029

LVL LOT #: 0304L144

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J00LB0	Arsenic, Total	191	2.2	204	92.3	1.0
		Arsenic, Total MSD	191	2.2	201	94.0	1.0
		Chromium, Total	30.5	11.2	20.4	94.6	1.0
		Chromium, Total MSD	30.2	11.2	20.1	94.5	1.0
		Mercury, Total	0.21	0.03	0.16	112.8	1.0
		Lead, Total	52.4	5.7	51.1	91.4	1.0
		Lead, Total MSD	52.2	5.7	50.2	92.6	1.0

Lionville Laboratory, Inc.

INORGANICS DUPLICATE SPIKE REPORT 04/11/03

CLIENT: TNU-HANFORD B00-029 LVL LOT #: 0304L144

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

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
-001	J00LB0	Arsenic, Total	92.3	94.0	1.8
		Chromium, Total	94.6	94.5	0.085
		Lead, Total	91.4	92.6	1.3

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 04/11/03

CLIENT: TNU-HANFORD B00-029 LVL LOT #: 0304L144

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J00LB0	Arsenic, Total	2.2	2.3	4.4	1.0
		Chromium, Total	11.2	11.4	1.8	1.0
		Mercury, Total	0.03	0.03	10.5	1.0
		Lead, Total	5.7	5.7	0.00	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 04/11/03

CLIENT: TNU-HANFORD B00-029

LVL LOT #: 0304L144

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	03L0192-LC1	Arsenic, LCS	966	1000	MG/KG	96.6
		Chromium, LCS	50.0	50.0	MG/KG	100
		Lead, LCS	243	250	MG/KG	97.2
LCS1	03C0079-LC1	Mercury, LCS	6.2	6.2	MG/KG	100.0

Lionville Laboratory Use Only
0304L144

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU-Hanford B00-029
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: 2 Days

Date Rec'd: 4.10.03 Date Due: 4-12-03

		A
Refrigerator #		6
#/Type Container	Liquid	
	Solid	100
Volume	Liquid	
	Solid	60
Preservatives		—

ANALYSES REQUESTED →

	ORGANIC				INORG	
	VOA	BNA	Pest/PCB	Herb	Metal	CN
					MET ①	
					X	

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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	JOOLBO	X	X	S	4.9.03	0920

Special Instructions: SAF # B00-029

MET ① = As, Cr, Pb, Hg

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	4.10.03	0945

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

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

Lionville Laboratory Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # See below
2) Ambient or Chilled (Y)
3) Received in Good Condition (Y) or N
4) Samples Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

Temper 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. 0.5 °C

0304L144

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B00-029-269	Page 1 of 1
Collector Doug Bowers	Company Contact Mike Stankovich	Telephone No. 531-7620	Project Coordinator KESSNER, JH	Price Code / Data Turnaround
Project Designation 100 F Area - Quick Turn	Sampling Location UPR-100-F-3		SAF No. B00-029	Air Quality ☐
Ice Chest No. ERC 02.407	Field Logbook No. EL 1572	COA 2000 RF R10F248000 4-9-03	Method of Shipment FedEx	
Shipped To TMA/RECRA	Offsite Property No. A030-207		Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS
Activity Report To Follow

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										
J00LB0	SOIL	4-9-03	0920	X									

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From Doug Bowers Bowers	Date/Time 4-9-03/1115	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From Dee Ex	Date/Time 4/10/03/0945	Received By/Stored In [signature]	Date/Time 4.10.03 / 0945
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)

Matrix *
S=Soil
SS=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

BHLEE-011 (03/01/2002)

LIONVILLE LABORATORY INCORPORATED
SAMPLE RECEIPT CHECKLIST

IENT: TNU Hanford

chase Order/Project:

DATE: 4-10-03

/ SOW# / Release #: B00-029

oratory SDG #: 03041144

TE: 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 LvL1 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 #

ooler # / temp (°C) and Comments:

ERE-02-407 / 0.5°

aboratory Sample Custodian: D. Smith

aboratory Project Manager: