



Mr. Steve Trent  
 Fluor Hanford Inc.  
 825 Jadwin Ave.  
 Richland, WA 99352



**Subject: Contract No. 630  
 Analytical Data Package**

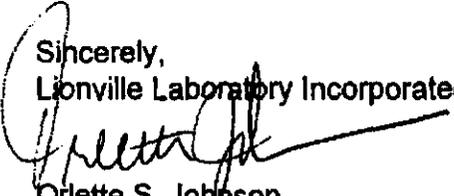
Dear Mr. Trent:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	0503L116
SDG #	H2815
SAF #	F03-025
Date Received	3-31-05
# Samples	1
Matrix	Soil
Volatiles	
Semivolatiles	
Pest/PCB	
DRO/GRO/KRO	
Herbicides	
GC Alcohol	
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**  
 NOV 11 2005

**EDMC**

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

Lionville Laboratory, Inc.  
 INORGANIC ANALYTICAL DATA PACKAGE FOR  
 TNUHANFORD F03-025 H2815

DATE RECEIVED: 03/31/05

LVL LOT # :0503L116

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B19HY6						
TCLP	001	S	05LTO045	10/26/04	04/05/05	04/06/05
MERCURY, TCLP LEACHA	002	W	05C0073	04/06/05	04/07/05	04/08/05
MERCURY, TCLP LEACHA	002 REP	W	05C0073	04/06/05	04/07/05	04/08/05
MERCURY, TCLP LEACHA	002 MS	W	05C0073	04/06/05	04/07/05	04/08/05

LAB QC:

MERCURY LABORATORY	LC1 BS	W	05C0073	N/A	04/07/05	04/08/05
MERCURY, TOTAL	MB1	W	05C0073	N/A	04/07/05	04/08/05
MERCURY, TCLP LEACHA	MB2	W	05C0073	N/A	04/07/05	04/08/05
MERCURY, TCLP LEACHA	MB3	W	05C0073	N/A	04/07/05	04/08/05
MERCURY, TCLP LEACHA	MB4	W	05C0073	N/A	04/07/05	04/08/05
MERCURY, TCLP LEACHA	MB5	W	05C0073	N/A	04/07/05	04/08/05
MERCURY, TCLP LEACHA	MB6	W	05C0073	N/A	04/07/05	04/08/05



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**Analytical Report**

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**Client:** TNU-HANFORD F03-025  
**LVL#:** 0503L116  
**SDG/SAF#:** H2815/F03-025

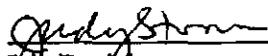
**W.O.#:** 11343-606-001-9999-00  
**Date Received:** 03-31-05

**METALS CASE NARRATIVE**

1. This narrative covers the analysis of 1 TCLP leachate sample. This is a relog of LVL batch# 0411L115.
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. All results presented in this report are derived from samples that originally met LVL'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 sample (LCS) was within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.
10. The duplicate analysis was outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.
11. The TCLP extract from sample B19HY6 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 // 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.

  
\_\_\_\_\_  
Ian Daniels  
Laboratory Manager  
Lionville Laboratory Incorporated

4/25/05  
Date

gmb/m03-116



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## METALS METHOD GLOSSARY

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

Lot#: 0503L116

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 <sup>s</sup>	200.7 204.2			99
Arsenic	6010B 7060A <sup>s</sup>	200.7 206.2	3113B		99
Barium	6010B	200.7			99
Beryllium	6010B	200.7			99
Bismuth	6010B <sup>1</sup>	200.7 <sup>1</sup>		1620	99
Boron	6010B	200.7			99
Cadmium	6010B 7131A <sup>s</sup>	200.7 213.2			99
Calcium	6010B	200.7			99
Chromium	6010B 7191 <sup>s</sup>	200.7 218.2			SS17
Cobalt	6010B	200.7			99
Copper	6010B 7211 <sup>s</sup>	200.7 220.2			99
Iron	6010B	200.7			99
Lead	6010B 7421 <sup>s</sup>	200.7 239.2	3113B		99
Lithium	6010B 7430 <sup>s</sup>	200.7		1620	99
Magnesium	6010B	200.7			99
Manganese	6010B	200.7			99
Mercury	7470A <sup>s</sup> 7471A <sup>s</sup>	245.1 <sup>s</sup> 245.5 <sup>s</sup>			99
Molybdenum	6010B	200.7			99
Nickel	6010B	200.7			99
Potassium	6010B 7610 <sup>s</sup>	200.7 258.1 <sup>s</sup>			99
Rare Earths	6010B <sup>1</sup>	200.7 <sup>1</sup>		1620	99
Selenium	6010B 7740 <sup>s</sup>	200.7 270.2	3113B		99
Silicon	6010B <sup>1</sup>	200.7		1620	99
Silica	6010B	200.7		1620	99
Silver	6010B 7761 <sup>s</sup>	200.7 272.2			99
Sodium	6010B 7770 <sup>s</sup>	200.7 273.1 <sup>s</sup>			99
Strontium	6010B	200.7			99
Thallium	6010B 7841 <sup>s</sup>	200.7 279.2 200.9			99
Tin	6010B	200.7			99
Titanium	6010B	200.7			99
Uranium	6010B <sup>1</sup>	200.7 <sup>1</sup>		1620	99
Vanadium	6010B	200.7			99
Zinc	6010B	200.7			99
Zirconium	6010B <sup>1</sup>	200.7 <sup>1</sup>		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-W1-033/N-04/98

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Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/11/05

CLIENT: TNUHANFORD F03-025 H2815  
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0502L116

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	B19HY6	Mercury, TCLP Leachate	0.16	UG/L	0.10	1.0

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Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/11/05

CLIENT: INDIANAPOLIS F03-025 H2815  
 WORK ORDER: 11342-606-001-9999-00

LVL LOT #: 0503L116

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	05C0073-MB1	Mercury, Total	0.10	u UG/L	0.10	1.0
BLANK2	05C0073-MB2	Mercury, TCLP Leachate	0.10	u UG/L	0.10	1.0
BLANK3	05C0073-MB3	Mercury, TCLP Leachate	0.10	u UG/L	0.10	1.0
BLANK4	05C0073-MB4	Mercury, TCLP Leachate	0.10	u UG/L	0.10	1.0
BLANK5	05C0073-MB5	Mercury, TCLP Leachate	0.10	u UG/L	0.10	1.0
BLANK6	05C0073-MB6	Mercury, TCLP Leachate	0.10	u UG/L	0.10	1.0

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Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 04/11/05

CLIENT: TNUHANFORD F03-025 H2615  
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0503L116

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-002	B19HY6	Mercury, TCLP Leachate	102	0.16	200	91.0	50.0

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Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 04/11/05

CLIENT: TNUMANFORD F01-025 H2815  
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0503L116

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-002REP	B19HY6	Mercury, TCLP Leachate	0.16	0.22	32.4	1.0

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Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 04/11/05

CLIENT: TUNNANFORD F03-025 H2815  
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0503L116

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
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LCS1	05C0073-LC1	Mercury, LCS	5.1	5.0	UG/L	101.1

0000001R

Lionville Laboratory Use Only

0503L116

# Custody Transfer Record/Lab Work Request Page 1 of 1



FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

K

Client: <u>TCLP/Leachate</u> <u>P23-025</u>			Refrigerator #		5															
Est. First Proj. Sampling Date			#/Type Container		Liquid															
Project # <u>11343-006-001-9999-00</u>			Volume		Solid		100		Leachate											
Project Contact/Phone #			Preservatives				500		Leachate											
Lionville Laboratory Project Manager <u>OJ</u>			ANALYSES REQUESTED		ORGANIC				INORG											
cc Spec <u>Del STD TAT 7 Days</u>			Date Rec'd <u>3/31/05</u> Date Due <u>4/7/05</u>		VOA		BNA		Pest/PCB		Herb		TOLP		Hg		Metal		CN	
MATRIX CODES:			Lab ID		Client ID/Description		Matrix		Date Collected		Time Collected		Lionville Laboratory Use Only							
S - Soil																				
SE - Sediment																				
SO - Solid																				
SL - Sludge																				
W - Water																				
O - Oil																				
A - Air																				
DS - Drum Solids			001		B19HY6		Soil		106060941				IRCL		MHGTC					
DL - Drum Liquids			002		B19HY6 TCLP001		L		*											
L - EP/TCLP Leachate																				
WI - Wipe																				
X - Other																				
F - Fish																				

Special Instructions: \* See Labchain  
Retlog of 0411L15-001

- DATE/REVISIONS:
- \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
<u>Relog</u>								"COMPOSITE WASTE"			

REVISIONS