



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 #	0806L350
SDG #	H3775
SAF #	F08-126
Date Received	6/26/08
# Samples	1
Matrix	SOIL
Volatiles	
Semivolatiles	
Pest/PCB	
DRO/GRO/KRO	
Herbicides	
GC Alcohol	
Metals	X
Inorganics	X

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

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# METALS

Lionville Laboratory, Inc.  
 INORGANIC ANALYTICAL DATA PACKAGE FOR  
 TNUHANFORD F08-126 H3775

DATE RECEIVED: 06/26/08

LVL LOT # :0806L350

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1VJ65						
SILVER, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
SILVER, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
SILVER, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
ARSENIC, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
ARSENIC, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
ARSENIC, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
BARIUM, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
BARIUM, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
BARIUM, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
BERYLLIUM, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
BERYLLIUM, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
BERYLLIUM, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
BISMUTH, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
BISMUTH, TOTAL REP	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
BISMUTH, TOTAL SPIKE	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
CADMIUM, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
CADMIUM, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
CADMIUM, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
CHROMIUM, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
CHROMIUM, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
CHROMIUM, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
COPPER, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
COPPER, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
COPPER, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
MERCURY, TOTAL	001	S	08C0121	06/23/08	07/02/08	07/02/08
MERCURY, TOTAL	001 REP	S	08C0121	06/23/08	07/02/08	07/02/08
MERCURY, TOTAL	001 MS	S	08C0121	06/23/08	07/02/08	07/02/08
NICKEL, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
NICKEL, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
NICKEL, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
LEAD, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
LEAD, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
LEAD, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
ANTIMONY, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
ANTIMONY, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08

Lionville Laboratory, Inc.  
 INORGANIC ANALYTICAL DATA PACKAGE FOR  
 TNUHANFORD F08-126 H3775

DATE RECEIVED: 06/26/08

LVL LOT # :0806L350

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ANTIMONY, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
SELENIUM, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
SELENIUM, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
SELENIUM, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08
THALLIUM, TOTAL	001	S	08L0295	06/23/08	08/07/08	08/08/08
THALLIUM, TOTAL	001 REP	S	08L0295	06/23/08	08/07/08	08/08/08
THALLIUM, TOTAL	001 MS	S	08L0295	06/23/08	08/07/08	08/08/08

LAB QC:

SILVER LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
SILVER, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
ARSENIC LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
ARSENIC, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
BARIUM LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
BARIUM, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
BERYLLIUM LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
BERYLLIUM, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
BISMUTH, LCS	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
BISMUTH, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
CADMIUM LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
CADMIUM, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
CHROMIUM LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
CHROMIUM, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
COPPER LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
COPPER, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
MERCURY LABORATORY	LC1 BS	S	08C0121	N/A	07/02/08	07/02/08
MERCURY, TOTAL	MB1	S	08C0121	N/A	07/02/08	07/02/08
NICKEL LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
NICKEL, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
LEAD LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
LEAD, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
ANTIMONY LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
ANTIMONY, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
SELENIUM LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
SELENIUM, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08
THALLIUM LABORATORY	LC1 BS	S	08L0295	N/A	08/07/08	08/08/08
THALLIUM, TOTAL	MB1	S	08L0295	N/A	08/07/08	08/08/08



**Analytical Report**

**Client:** TNU-HANFORD F08-126  
**LVL#:** 0806L350  
**SDG/SAF#:** H3775/F08-126

**W.O.#:** 11343-606-001-9999-00  
**Date Received:** 06-26-08

**METALS CASE NARRATIVE**

The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvLI) certifies that all test results meet the requirements of NELAC except as noted below.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise.

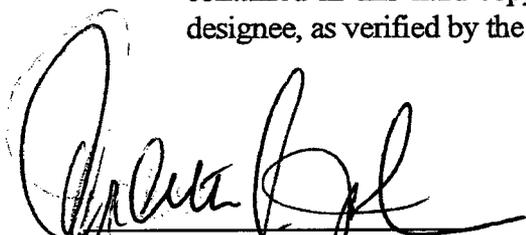
1. This narrative covers the analysis of 1 soil sample.
2. The sample was prepared and analyzed in accordance with methods checked on the attached glossary.
3. All analyses were performed within the required holding times.
4. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).
5. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the LOQ).
6. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation (3-10X the LOD), sample result was greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.
7. All ICP Interference Check Standards were within control limits.
8. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.
9. The matrix spike (MS) recovery for 1 analyte was outside the 75-125% control limits. Refer to the Inorganics Accuracy 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 17 pages.

10. 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:

<u>Sample ID</u>	<u>Element</u>	<u>PDS</u> <u>Concentration (ppb)</u>	<u>PDS</u> <u>% Recovery</u>
B1VJ65	Antimony	100	96.0

11. All duplicate analyses were within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.
12. For the purposes of this report, the data has been reported to the Limit of Detection (LOD). Values between the LOD and the Limit of Quantitation (LOQ) are acquired in a region of less-certain quantification.
13. LvLI is NELAP accredited by the state of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
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

8/12/08  
Date

alm/m06-350



# METALS METHOD GLOSSARY

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

Lot#: 0806 L350  
 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	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Antimony	<input checked="" type="checkbox"/> 6010B <u>  </u> 7041 <sup>s</sup>	<u>  </u> 200.7	<u>  </u> 204.2		<u>  </u> 99
Arsenic	<input checked="" type="checkbox"/> 6010B <u>  </u> 7060A <sup>s</sup>	<u>  </u> 200.7	<u>  </u> 206.2	<u>  </u> 3113B	<u>  </u> 99
Barium	<input checked="" type="checkbox"/> 6010B	<u>  </u> 200.7			<u>  </u> 99
Beryllium	<input checked="" type="checkbox"/> 6010B	<u>  </u> 200.7		<u>  </u> 1620	<u>  </u> 99
Bismuth	<input checked="" type="checkbox"/> 6010B <sup>1</sup>	<u>  </u> 200.7 <sup>1</sup>			<u>  </u> 99
Boron	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Cadmium	<input checked="" type="checkbox"/> 6010B <u>  </u> 7131A <sup>s</sup>	<u>  </u> 200.7	<u>  </u> 213.2		<u>  </u> 99
Calcium	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> SS17
Chromium	<input checked="" type="checkbox"/> 6010B <u>  </u> 7191 <sup>s</sup>	<u>  </u> 200.7	<u>  </u> 218.2		<u>  </u> 99
Cobalt	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Copper	<input checked="" type="checkbox"/> 6010B <u>  </u> 7211 <sup>s</sup>	<u>  </u> 200.7	<u>  </u> 220.2		<u>  </u> 99
Iron	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Lead	<input checked="" type="checkbox"/> 6010B <u>  </u> 7421 <sup>s</sup>	<u>  </u> 200.7	<u>  </u> 239.2	<u>  </u> 3113B	<u>  </u> 99
Lithium	<u>  </u> 6010B <u>  </u> 7430 <sup>4</sup>	<u>  </u> 200.7		<u>  </u> 1620	<u>  </u> 99
Magnesium	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Manganese	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Mercury	<u>  </u> 7470A <sup>3</sup> <input checked="" type="checkbox"/> <u>  </u> 7471A <sup>3</sup>	<u>  </u> 245.1 <sup>2</sup>	<u>  </u> 245.5 <sup>2</sup>		<u>  </u> 99
Molybdenum	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Nickel	<input checked="" type="checkbox"/> 6010B	<u>  </u> 200.7			<u>  </u> 99
Potassium	<u>  </u> 6010B <u>  </u> 7610 <sup>4</sup>	<u>  </u> 200.7	<u>  </u> 258.1 <sup>4</sup>		<u>  </u> 99
Rare Earths	<u>  </u> 6010B <sup>1</sup>	<u>  </u> 200.7 <sup>1</sup>		<u>  </u> 1620	<u>  </u> 99
Selenium	<input checked="" type="checkbox"/> 6010B <u>  </u> 7740 <sup>s</sup>	<u>  </u> 200.7	<u>  </u> 270.2	<u>  </u> 3113B	<u>  </u> 99
Silicon	<u>  </u> 6010B <sup>1</sup>	<u>  </u> 200.7		<u>  </u> 1620	<u>  </u> 99
Silica	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Silver	<input checked="" type="checkbox"/> 6010B <u>  </u> 7761 <sup>s</sup>	<u>  </u> 200.7	<u>  </u> 272.2		<u>  </u> 99
Sodium	<u>  </u> 6010B <u>  </u> 7770 <sup>4</sup>	<u>  </u> 200.7	<u>  </u> 273.1 <sup>4</sup>		<u>  </u> 99
Strontium	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Thallium	<input checked="" type="checkbox"/> 6010B <u>  </u> 7841 <sup>s</sup>	<u>  </u> 200.7	<u>  </u> 279.2	<u>  </u> 200.9	<u>  </u> 99
Tin	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Titanium	<u>  </u> 6010B	<u>  </u> 200.7		<u>  </u> 1620	<u>  </u> 99
Uranium	<u>  </u> 6010B <sup>1</sup>	<u>  </u> 200.7 <sup>1</sup>			<u>  </u> 99
Vanadium	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Zinc	<u>  </u> 6010B	<u>  </u> 200.7			<u>  </u> 99
Zirconium	<u>  </u> 6010B <sup>1</sup>	<u>  </u> 200.7 <sup>1</sup>		<u>  </u> 1620	<u>  </u> 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 08/11/08

CLIENT: TNUHANFORD F08-126 H3775  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L350

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
-001	B1VJ65	Silver, Total	0.08 u	MG/KG	0.08	1.0
		Arsenic, Total	3.6	MG/KG	0.42	1.0
		Barium, Total	56.7	MG/KG	0.08	1.0
		Beryllium, Total	0.11	MG/KG	0.04	1.0
		Bismuth, Total	0.50 u	MG/KG	0.50	1.0
		Cadmium, Total	0.12	MG/KG	0.04	1.0
		Chromium, Total	9.5	MG/KG	0.17	1.0
		Copper, Total	12.8	MG/KG	0.17	1.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Nickel, Total	8.9	MG/KG	0.17	1.0
		Lead, Total	3.7	MG/KG	0.25	1.0
		Antimony, Total	0.25 u	MG/KG	0.25	1.0
		Selenium, Total	0.50 u	MG/KG	0.50	1.0
		Thallium, Total	0.57	MG/KG	0.50	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 08/11/08

CLIENT: TNUHANFORD F08-126 H3775  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L350

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
BLANK1	08L0295-MB1	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Arsenic, Total	0.50 u	MG/KG	0.50	1.0
		Barium, Total	0.21	MG/KG	0.10	1.0
		Beryllium, Total	0.05 u	MG/KG	0.05	1.0
		Bismuth, Total	0.60 u	MG/KG	0.60	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Chromium, Total	0.20 u	MG/KG	0.20	1.0
		Copper, Total	0.20 u	MG/KG	0.20	1.0
		Nickel, Total	0.20 u	MG/KG	0.20	1.0
		Lead, Total	0.30 u	MG/KG	0.30	1.0
		Antimony, Total	0.30 u	MG/KG	0.30	1.0
		Selenium, Total	0.60 u	MG/KG	0.60	1.0
		Thallium, Total	0.60 u	MG/KG	0.60	1.0
BLANK1	08C0121-MB1	Mercury, Total	0.01 u	MG/KG	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 08/11/08

CLIENT: TNUHANFORD F08-126 H3775  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L350

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	B1VJ65	Silver, Total	3.7	0.08u	4.0	92.5	1.0
		Arsenic, Total	145	3.6	159	89.4	1.0
		Barium, Total	206	56.7	159	94.3	1.0
		Beryllium, Total	3.7	0.11	4.0	89.7	1.0
		Bismuth, Total	367	0.50u	396	92.6	1.0
		Cadmium, Total	3.6	0.12	4.0	87.0	1.0
		Chromium, Total	27.3	9.5	15.9	112.0	1.0
		Copper, Total	28.9	12.8	19.8	81.3	1.0
		Mercury, Total	0.15	0.00u	0.15	102.0	1.0
		Nickel, Total	45.0	8.9	39.6	91.2	1.0
		Lead, Total	38.9	3.7	39.6	88.9	1.0
		Antimony, Total	18.2	0.25u	39.6	46.0	1.0
		Selenium, Total	121	0.50u	159	76.3	1.0
		Thallium, Total	141	0.57	159	88.8	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 08/11/08

CLIENT: TNUHANFORD F08-126 H3775  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L350

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION
			RESULT	REPLICATE	RPD	FACTOR (REP)
-001REP	B1VJ65	Silver, Total	0.08u	0.08u	NC	1.0
		Arsenic, Total	3.6	3.5	2.8	1.0
		Barium, Total	56.7	63.5	11.3	1.0
		Beryllium, Total	0.11	0.14	19.5	1.0
		Bismuth, Total	0.50u	0.49u	NC	1.0
		Cadmium, Total	0.12	0.1	19.5	1.0
		Chromium, Total	9.5	9.5	0.00	1.0
		Copper, Total	12.8	12.2	4.8	1.0
		Mercury, Total	0.00u	0.00u	NC	1.0
		Nickel, Total	8.9	7.4	18.4	1.0
		Lead, Total	3.7	4.3	15.0	1.0
		Antimony, Total	0.25u	0.24u	NC	1.0
		Selenium, Total	0.50u	0.49u	NC	1.0
		Thallium, Total	0.57	0.49u	NC	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 08/11/08

CLIENT: TNUHANFORD F08-126 H3775  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L350

SAMPLE	SITE ID	ANALYTE	SPIKED	SPIKED	UNITS	%RECOV
			SAMPLE	AMOUNT		
=====	=====	=====	=====	=====	=====	=====
LCS1	08L0295-LC1	Silver, LCS	48.0	50.0	MG/KG	96.0
		Arsenic, LCS	913	1000	MG/KG	91.3
		Barium, LCS	481	500	MG/KG	96.1
		Beryllium, LCS	23.7	25.0	MG/KG	94.8
		Bismuth, LCS	465	500	MG/KG	93.1
		Cadmium, LCS	23.2	25.0	MG/KG	92.8
		Chromium, LCS	47.7	50.0	MG/KG	95.4
		Copper, LCS	123	125	MG/KG	98.2
		Nickel, LCS	189	200	MG/KG	94.7
		Lead, LCS	234	250	MG/KG	93.6
		Antimony, LCS	279	300	MG/KG	93.0
		Selenium, LCS	890	1000	MG/KG	89.0
		Thallium, LCS	928	1000	MG/KG	92.8
LCS1	08C0121-LC1	Mercury, LCS	4.9	4.7	MG/KG	103.5

SAMPLE DIGESTION RECORD

Digestion Batch #: 0820295  
 Date/Time Initiated: 8/7/08 1800  
 Date/Time Completed: 8/7/08  
 Analyst(s): MW  
 Matrix: Soil Water Other: \_\_\_\_\_  
 Instr. Type: AA (CP)  
 Parameters: See backlog

SOP: L-SPI-3020 Rev. 00  
 Method: SW 3005A DW 200.7 (1994)  
 (circle) 3010A 200.9  
 3015 3113B  
 3020A  
 7060A (As/Se) MCAWW 200.7 (1982)  
 7760A (Ag) 200 (AA)  
 206.2 (As/Se)  
 3050B  
 3051 SM 3030C (NC)  
 CLP ILMO3.0 Other \_\_\_\_\_  
 ILMO4.0

Digested  Undigested (circle one)  
 Balance #: 620  
 Balance Cal Verif:  NA  
 Hot Plate Temp: 91

MW/Bettis

COC Batch #	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH	Type: To/So/TC	Texture	Color/Appearance	Artifact	Turb
<u>0807350-001</u>		<u>1.26g</u>	<u>100ml</u>	<u>42</u>	<u>TO</u>	<u>coarse</u>	<u>brown soil</u>	<u>None</u>	
<u>WE 8/12/08 001R</u>		<u>1.29g</u>							
<u>0015</u>	<u>1.0 ml *</u>	<u>1.32g</u>							
<u>0807427-001</u>		<u>1.29g</u>							
<u>WE 8/17/08 001R</u>		<u>1.27g</u>							
<u>0015</u>	<u>1.0 ml *</u>	<u>1.29g</u>							
<u>002</u>		<u>1.26g</u>							
<u>0807511-007</u>		<u>1.01g</u>					<u>grey paint chips</u>		
<u>0075</u>	<u>1.0 ml</u>	<u>1.02g</u>							
<u>0075</u>	<u>1</u>	<u>1.00g</u>							
<u>009</u>		<u>1.07g</u>							
<u>0820295-MB1</u>		<u>1.0g</u>					<u>boiling chips</u>		
<u>Let</u>	<u>1.0 ml *</u>	<u>1.0g</u>					<u>to</u>		

MW 8/7/08

Spiking IDs:  
 MS #: 8100-04-01  
02  
03  
6072-78-07  
 LCS #: 08  
09  
10  
11

Reagent IDs:  
 HNO<sub>3</sub> G07057  
 HCL G15040  
 H<sub>2</sub>O<sub>2</sub> G15A18  
 1:1 HNO<sub>3</sub> 9789-81-03  
 1:1 HCL \_\_\_\_\_

File ID#: IC029501  
IC029502  
 LIMS Transfer:  N updated  
 Data Review By/Date: PMP, 08/08/08

\* also 0.5ml 6072-076-011(Bi)

MERCURY PREPARATION

Analyst: TEB  
Date: 7/2/08  
Start Time/Temp: 1400 | 92°  
End Time/Temp: 1830 | 94°

Instrument ID: H63.1  
Balance #: B29 /NA  
Pipette Calibration (Daily) Y

Logbook #: 455  
Prep Batch: 08C0121  
Worksheet: H607021  
SOP No. ME-HgCVAA, Rev. 02

pH <sup>14.5</sup> for Liquids? Yes / No (If no: designate affected samples in Comments column, and initiate an SDR)

NOTE: The Initial/Final Volume for water samples = 33mL, unless otherwise noted.  
The Final volume for soil samples = 50mL, unless otherwise noted.

LvLI Batch #	Container Number	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
Blank	P18			10mL	50mL	
0.2 µg/L	PS	0.100				
1.0	B94	0.500				
2.0	8	1.000				
5.0	PC	2.500				
10.0	SD0	5.000				
ICV	CB	0.125	25			
CCV	PF	0.250	5.0			
ICB/CCB	857					
MBI	AHA			0.30		PBS121 100.00
LCL	JC	*	*	0.30		LCS21
0806L323-001	40			0.32		R
DIR	711			0.33		
001S	A	0.050	10.0	0.40		
002	814			0.33		
003	B32			0.36		
0806L291-001	R			0.37		96.02
001R	C48			0.33		
001S	C40	0.500	1.0	0.37		
0806L350-001	GR			0.35		
001R	A901			0.34		
<sup>TEB 7/2/08</sup> 001S	A9	0.500	1.0	0.35		
0806L371-001	ST			0.34		R
001R	11A			0.33		
001S	PA	0.500	1.0	0.34		
002	BB			0.42		
003	BLV			0.35		

Standard:	ID	Prep Date/Time
ICALMS	R16072-78-14B	7/2/08 + 1045
ICV/CCV/LCS	456072-78-15A	

Reviewed By/Date: Matt 7/9/08  
see book # 9368 for std traceability information

Soil LCS = US Metals in soil No.3; True Value = 4.70 mg/Kg  
Catalogue #1RM-021, Lot # E021

Water Matrix Spiking Solution Concentration = 0.1 µg/ml  
Water LCS Spiking Concentration: 1.0 µg/ml

MERCURY PREPARATION

Analyst: Geo  
Date: 7/12/08  
Start Time/Temp: \_\_\_\_\_  
End Time/Temp: See page 001

Instrument ID: H63.1  
Balance #: B29 /NA  
Pipette Calibration (Daily) Y

Logbook #: 455  
Prep Batch: 086021  
Worksheet: H6-070201  
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? Yes ~~NA~~ No (If no: designate affected samples in Comments column, and initiate an SDR)

NOTE: The Initial/Final Volume for water samples = 33mL, unless otherwise noted.  
The Final volume for soil samples = 50mL, unless otherwise noted.

LvLI Batch #	Container Number	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
0806L371004	508			0.35	50mL	
<i>See page 001</i>						

*See page 001*  
*7/12/08*

Standard:	ID	Prep Date/Time
ICAL/MS		
ICV/CCV/LCS	<i>See page 001</i>	

Reviewed By/Date: [Signature] 7/9/08  
see book # 9368 for std traceability information

Soil LCS = US Metals in soil No.3; True Value = 4.70 mg/Kg  
Catalogue #1RM-021, Lot # E021

Water Matrix Spiking Solution Concentration = 0.1 µg/ml  
Water LCS Spiking Concentration: 1.0 µg/ml





**Lionville Laboratory Incorporated**  
**SAMPLE RECEIPT CHECKLIST (SRC)**

CLIENT: TNU HANFORD  
 Project/SAE/SOW/Release #: F08-125

Date: 6/26/08

LvLI Batch #: 08061350

Sample Custodian: [Signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered <u>or Shipped?</u>	Carrier <u>FSD Ep</u>	Airbill # <u>7984-6813-0402</u>
2. Custody Seals on coolers or shipping containers intact, signed & dated?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No Seals
3. Outside of coolers or shipping containers are free from damage?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Comments:
4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Samples received cooled or ambient?  How was the temperature taken?  Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	Temp <u>4.2</u> °C <input checked="" type="checkbox"/> IR <input type="checkbox"/> Temp. Blank <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Cooler # <u>SML-203</u> <input type="checkbox"/> Other (Specify):
6. Custody seals on sample containers intact, signed and dated?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No Seals
7. COC (Client & LvLI) signed & dated?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
8. Sample containers are intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
9. All samples on COC received? All samples received on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
10. All sample label information matches COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11. Samples properly preserved? (If #5 is no, then this is no.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
12. Samples received within hold times? Short holds taken to wet lab?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
13. VOA, TOC, TOX free of headspace?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
14. QC stickers placed on bottles designated by client?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A
15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
16. Project Manager contacted concerning any discrepancies? Person Contacted _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A Date _____



# INORGANICS

Lionville Laboratory, Inc.  
 INORGANIC ANALYTICAL DATA PACKAGE FOR  
 TNUHANFORD F08-126 H3775

DATE RECEIVED: 06/26/08

LVL LOT # :0806L350

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1VJ65						
% SOLIDS	001	S	08L&S062	06/23/08	07/09/08	07/10/08
% SOLIDS	001 REP	S	08L&S062	06/23/08	07/09/08	07/10/08
CHLORIDE BY IC	001	S	08LICS49	06/23/08	07/17/08	07/17/08
CHLORIDE BY IC	001 REP	S	08LICS49	06/23/08	07/17/08	07/17/08
CHLORIDE BY IC	001 MS	S	08LICS49	06/23/08	07/17/08	07/17/08
FLUORIDE BY IC	001	S	08LICS49	06/23/08	07/17/08	07/17/08
FLUORIDE BY IC	001 REP	S	08LICS49	06/23/08	07/17/08	07/17/08
FLUORIDE BY IC	001 MS	S	08LICS49	06/23/08	07/17/08	07/17/08
NITRITE BY IC	001	S	08LICS49	06/23/08	07/17/08	07/17/08
NITRITE BY IC	001 REP	S	08LICS49	06/23/08	07/17/08	07/17/08
NITRITE BY IC	001 MS	S	08LICS49	06/23/08	07/17/08	07/17/08
NITRATE BY IC	001	S	08LICS49	06/23/08	07/17/08	07/17/08
NITRATE BY IC	001 REP	S	08LICS49	06/23/08	07/17/08	07/17/08
NITRATE BY IC	001 MS	S	08LICS49	06/23/08	07/17/08	07/17/08
PHOSPHATE BY IC	001	S	08LICS49	06/23/08	07/17/08	07/17/08
PHOSPHATE BY IC	001 REP	S	08LICS49	06/23/08	07/17/08	07/17/08
PHOSPHATE BY IC	001 MS	S	08LICS49	06/23/08	07/17/08	07/17/08
CHROMIUM VI	001	S	08LVI053	06/23/08	07/21/08	07/21/08
CHROMIUM VI	001 REP	S	08LVI053	06/23/08	07/21/08	07/21/08
CHROMIUM VI	001 MS	S	08LVI053	06/23/08	07/21/08	07/21/08
CHROMIUM VI	001 MSD	S	08LVI053	06/23/08	07/21/08	07/21/08
SULFATE BY IC	001	S	08LICS49	06/23/08	07/17/08	07/17/08
SULFATE BY IC	001 REP	S	08LICS49	06/23/08	07/17/08	07/17/08
SULFATE BY IC	001 MS	S	08LICS49	06/23/08	07/17/08	07/17/08

LAB QC:

CHLORIDE BY IC	MB1	S	08LICS49	N/A	07/17/08	07/17/08
CHLORIDE BY IC	MB1 BS	S	08LICS49	N/A	07/17/08	07/17/08
FLUORIDE BY IC	MB1	S	08LICS49	N/A	07/17/08	07/17/08
FLUORIDE BY IC	MB1 BS	S	08LICS49	N/A	07/17/08	07/17/08
NITRITE BY IC	MB1	S	08LICS49	N/A	07/17/08	07/17/08
NITRITE BY IC	MB1 BS	S	08LICS49	N/A	07/17/08	07/17/08
NITRATE BY IC	MB1	S	08LICS49	N/A	07/17/08	07/17/08
NITRATE BY IC	MB1 BS	S	08LICS49	N/A	07/17/08	07/17/08

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000000001

Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD F08-126 H3775

DATE RECEIVED: 06/26/08

LVL LOT # :0806L350

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
PHOSPHATE BY IC	MB1	S	08LICS49	N/A	07/17/08	07/17/08
PHOSPHATE BY IC	MB1 BS	S	08LICS49	N/A	07/17/08	07/17/08
CHROMIUM VI	MB1	S	08LVI053	N/A	07/21/08	07/21/08
CHROMIUM VI	MB1 BS	S	08LVI053	N/A	07/21/08	07/21/08
CHROMIUM VI	MB1 BSD	S	08LVI053	N/A	07/21/08	07/21/08
SULFATE BY IC	MB1	S	08LICS49	N/A	07/17/08	07/17/08
SULFATE BY IC	MB1 BS	S	08LICS49	N/A	07/17/08	07/17/08



## Analytical Report

Client: TNU-HANFORD F08-126 H3775  
LVL#: 0806L350

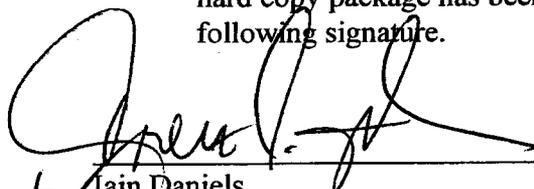
W.O.#: 11343-606-001-9999-00  
Date Received: 06-26-08

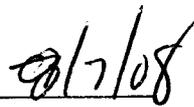
### INORGANIC NARRATIVE

1. This narrative covers the analyses of 1 soil sample.
2. The sample was prepared and analyzed in accordance with the method indicated on the attached glossary.

LvLI is NELAP accredited by the State of Pennsylvania. For a complete list of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager. LvLI certifies that all test results meet the requirements of NELAC with any exception noted in the following statements.

3. Sample holding times as required by the method and/or contract were met.
4. The results presented in this report are derived from a sample that met LvLI's sample acceptance policy.
5. The method blanks were within the method criteria.
6. The Laboratory Control Samples (LCS) were within the laboratory control limits.
7. The matrix spike recoveries were within the 75-125% control limits.
8. The replicate analyses were within the 20% Relative Percent Difference (RPD) control limit.
9. Results for soil samples are reported on a dry weight basis.
10. 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 package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

  
Iain Daniels  
Laboratory Manager  
Lionville Laboratory Incorporated

  
Date

njpl06-350

The results presented in this report relate to the analytical testing and conditions of the samples upon 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 12 pages.

**Lionville Laboratory Incorporated**

**WET CHEMISTRY**

**METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS**

	<u>ASTM</u>	<u>SW846</u>	<u>OTHER</u>
% Ash	___ D2216-80		
% Moisture	___ D2216-80		___ ILMO4.0 (e)
% Solids	✓ ___ D2216-80		___ ILMO4.0 (e)
% Volatile Solids	___ D2216-80		
ASTM Extraction in Water	___ D3987-81/85		
BTU	___ D240-87		
CEC		___ 9081	___ c
Chromium VI		✓ ___ 3060A/7196A	
Corrosivity ___ by coupon ___ by pH		___ 1110(mod) ___ 9045C	
Cyanide, Total		___ 9010B	___ ILMO4.0 (e)
Cyanide, Reactive		___ Section 7.3/9014	
Halides, Extractable Organic		___ 9020B	___ EPA 600/4/84-008
Halides, Total		___ 9020B	___ EPA 600/4/84-008
EP Toxicity		___ 1310A	
Flash Point		___ 1010	
Ignitability		___ 1010	
Oil & Grease		___ 9071A	
Carbon, Total Organic		___ 9060	___ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions ___ D240-87(mod)		___ 5050	
Petroleum Hydrocarbons, Total Recoverable		___ 9071	___ EPA 418.1
pH, Soil		___ 9045C	
Sulfide, Reactive		___ Section 7.3/9030B	
Sulfide		___ 9030B(mod)	
Specific Gravity	___ D1429-76C/	___ D5057-90	
Sulfur, Total		___ 9056	
Synthetic Preparation Leach		___ 1312	
Paint Filter		___ 9095A	
Other: <i>Chloride, Fluoride, Nitrite</i> , Method: } <i>EPA 300.0</i>			
Other: <i>Nitrate, Phosphate, Sulfate</i> , Method }			

# Lionville Laboratory Incorporated

## 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  
LC = Laboratory Control Sample.  
NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

### ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.
2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).
3. Test Methods for Evaluating Solid Waste (USEPA SW-846).
  - a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).
  - b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).
  - c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).
  - d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).
  - e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.
  - f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 07/28/08

CLIENT: TNUHANFORD F08-126 H3775  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L350

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-----	-----	-----	-----	-----	-----	-----
-001	B1VJ65	% Solids	95.5	%	0.01	1.0
		Chloride by IC	2.6	u MG/KG	2.6	1.0
		Fluoride by IC	2.6	u MG/KG	2.6	1.0
		Nitrite by IC	2.58	u MG/KG	2.58	1.0
		Nitrate by IC	2.58	u MG/KG	2.58	1.0
		Phosphate by IC	2.6	u MG/KG	2.6	1.0
		Chromium VI	0.21	u MG/KG	0.21	1.0
		Sulfate by IC	2.6	u MG/KG	2.6	1.0

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Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 07/28/08

CLIENT: TNUHANFORD F08-126 H3775  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L350

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
BLANK10	08LICS49-MB1	Chloride by IC	2.5	u MG/KG	2.5	1.0
		Fluoride by IC	2.5	u MG/KG	2.5	1.0
		Nitrite by IC	2.50	u MG/KG	2.50	1.0
		Nitrate by IC	2.50	u MG/KG	2.50	1.0
		Phosphate by IC	2.5	u MG/KG	2.5	1.0
		Sulfate by IC	2.5	u MG/KG	2.5	1.0
BLANK10	08LVI053-MB1	Chromium VI	0.20	u MG/KG	0.20	1.0

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Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 07/28/08

CLIENT: TNUHANFORD F08-126 H3775  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L350

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	B1VJ65	Chloride by IC	109	0.26	103	105.2	2.0
		Fluoride by IC	111	0.34	103	107.0	2.0
		Nitrite by IC	109	2.58u	103	106.2	2.0
		Nitrate by IC	112	2.58u	103	108.7	2.0
		Phosphate by IC	112	2.6 u	103	108.8	2.0
		Soluble Chromium VI	3.8	0.21u	4.2	91.7	1.0
		Insoluble Chromium VI	1160	0.21u	1150	100.9	100
		Sulfate by IC	111	2.6 u	103	107.6	2.0
BLANK10	08LICS49-MB1	Chloride by IC	56.7	2.5 u	59.0	96.1	1.0
		Fluoride by IC	58.0	2.5 u	59.0	98.3	1.0
		Nitrite by IC	57.8	2.50u	59.0	98.0	1.0
		Nitrate by IC	57.1	2.50u	59.0	96.7	1.0
		Phosphate by IC	57.9	2.5 u	59.0	98.2	1.0
		Sulfate by IC	57.4	2.5 u	59.0	97.3	1.0
BLANK10	08LVI053-MB1	Soluble Chromium VI	3.8	0.20u	4.0	93.8	1.0
		Insoluble Chromium VI	1310	0.20u	1150	114.3	100

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 07/28/08

CLIENT: TNUHANFORD F08-126 H3775  
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L350

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION
			RESULT	REPLICATE	RPD	FACTOR (REP)
-001REP	B1VJ65	% Solids	95.5	95.5	0.052	1.0
		Chloride by IC	2.6 u	2.6 u	NC	1.0
		Fluoride by IC	2.6 u	2.6 u	NC	1.0
		Nitrite by IC	2.58u	2.64u	NC	1.0
		Nitrate by IC	2.58u	2.64u	NC	1.0
		Phosphate by IC	2.6 u	2.6 u	NC	1.0
		Chromium VI	0.21u	0.21u	NC	1.0
		Sulfate by IC	2.6 u	2.6 u	NC	1.0



LECTOR **Lower Rust crew**  
 CHEST NO. **552, 1-002**  
 SM L. **203**  
 COMPANY CONTACT **TRENT, SJ** TELEPHONE NO. **373-5869**  
 PROJECT DESIGNATION **216-A-5 Crib Characterization Sampling and Analysis - Soil**  
 FIELD LOGBOOK NO. **HNF-V. 585-2** ACTUAL SAMPLE DEPTH **12.5-15'**  
 OFFSITE PROPERTY NO. **611108**  
 PROJECT COORDINATOR **WIDRIG, DL**  
 SAF NO. **F08-126**  
 COA **123124E510**  
 BILL OF LADING/AIR BILL NO. **7984. 6813 - 0402**  
 PRICE CODE **8N**  
 AIR QUALITY  **45 Days / 45 Days**  
 METHOD OF SHIPMENT **FEDERAL EXPRESS**

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS	SAMPLE DATE	SAMPLE TIME	NAME OF SPECIAL INSTRUCTIONS	COOL-TO-C	COOL-TO-C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	CHROMIUM HAZ - 7196	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
Soil	Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	Caol - 40	G/P	1	120ml		6-23-08	1335						
Soil			G/P	1	120ml									
Soil			G/P	1	120ml									

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	SIGN/ PRINT NAMES	RECEIVED BY/STORED IN	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
V165	SOIL	6-23-08	1335		Site Frig. #1	6-23-08 1504	BSD	6/23/08 1504
					BSD	6/23/08 1504	BSD	6/23/08 1504
					BSD	6/23/08 1504	BSD	6/23/08 1504

**SPECIAL INSTRUCTIONS**  
 \*\* The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.  
 \*\* Analytical batch QC must be run on a sample associated with this SAF.  
 (1) ICP Metals - 6010B (Supertace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver) ICP Metals - 6010B (Supertace Add-On) (Antimony, Beryllium, Bismuth, Copper, Nickel, Thallium) Mercury - 7471 - (CV);  
 (2) IC Anions - 300.0 (Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate)

REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
6/18/08	02130	BSD	6/23/08 1504	6-26-08	1010	BSD	6-26-08 1010
6-26-08	1010	BSD	6-26-08 1010				

LABORATORY SECTION RECEIVED BY  
 DISPOSAL METHOD  
 TITLE  
 DATE/TIME  
 A-6003-618(01/06)

**Lionville Laboratory Incorporated**  
**SAMPLE RECEIPT CHECKLIST (SRC)**

CLIENT: TNU HANFORD  
 Project SAE/SOW/Release #: F08-125

Date: 6/26/08

LvLI Batch #: 0806L350

Sample Custodian: [Signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered <u>or Shipped?</u>	Carrier <u>FSD &amp;</u>	Airbill # <u>7984-6813-0402</u>
2. Custody Seals on coolers or shipping containers intact, signed & dated?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No Seals
3. Outside of coolers or shipping containers are free from damage?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Comments:
4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Samples received cooled or ambient?  How was the temperature taken?  Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	Temp <u>4.2°</u> °C <input checked="" type="checkbox"/> IR <input type="checkbox"/> Temp. Blank <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Cooler # <u>SML-203</u> <input type="checkbox"/> Other (Specify):
6. Custody seals on sample containers intact, signed and dated?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No Seals
7. COC (Client & LvLI) signed & dated?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
8. Sample containers are intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
9. All samples on COC received? All samples received on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
10. All sample label information matches COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11. Samples properly preserved? (If #5 is no, then this is no.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
12. Samples received within hold times? Short holds taken to wet lab?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
13. VOA, TOC, TOX free of headspace?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
14. QC stickers placed on bottles designated by client?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A
15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
16. Project Manager contacted concerning any discrepancies? Person Contacted _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A Date _____



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