Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD F08-066 H3700

DATE RECEIVED: 04/29/08 LVL LOT # :0804L013

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1TFC0						
% SOLIDS	001	S	08L%S043	04/03/08	04/30/08	04/30/08
% SOLIDS	001 REP	S	08L%S043	04/03/08	04/30/08	04/30/08
CHROMIUM VI	001	S	08LVI040	04/03/08	04/30/08	04/30/08
CHROMIUM VI	001 REP	S	08LVI040	04/03/08	04/30/08	04/30/08
CHROMIUM VI	001 MS	S	08LVI040	04/03/08	04/30/08	04/30/08
CHROMIUM VI	001 MSD	S	08LVI040	04/03/08	04/30/08	04/30/08
SULFIDE	001	S	08LSD032	04/03/08	05/01/08	05/01/08
SULFIDE	001 REP	S	08LSD032	04/03/08	05/01/08	05/01/08
SULFIDE	001 MS	S	08LSD032	04/03/08	05/01/08	05/01/08
SPECIFIC CONDUCTANCE	001	S	08LSP010	04/03/08	05/14/08	05/14/08
SPECIFIC CONDUCTANCE	001 REP	S	08LSP010	04/03/08	05/14/08	05/14/08

LAB QC:

CHROMIUM VI	MB1	S	08LVI040	N/A	04/30/08	04/30/08
CHROMIUM VI	MB1 BS	S	08LVI040	N/A	04/30/08	04/30/08
CHROMIUM VI	MB1 BSD	S	08LVI040	N/A	04/30/08	04/30/08
SULFIDE	MB1	S	08LSD032	N/A	05/01/08	05/01/08
SULFIDE	MB1 BS	S	08LSD032	N/A	05/01/08	05/01/08
SULFIDE	MB1 BSD	S	08LSD032	N/A	05/01/08	05/01/08
SPECIFIC CONDUCTANCE	MB1	W	08LSP010	N/A	05/14/08	05/14/08
SPECIFIC CONDUCTANCE	MB1 BS	W	08LSP010	N/A	05/14/08	05/14/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD F08-066 H3700
LVL#: 0804L013

W.O.#: 11343-606-001-9999-00
Date Received: 04-29-08

INORGANIC NARRATIVE

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

2. The sample was prepared and analyzed in accordance with the methods 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 with the exception of Sulfide that was received past hold (see the sample chronology summary for analyses times for short hold samples).

4. The results presented in this report are derived from a sample that met LvLI's sample acceptance policy with the exception of Sulfide as noted on the Sample Receipt Checklist.

5. The method blanks were within the method criteria.

6. The Laboratory Control Samples (LCS) were within the laboratory control limits. The duplicate LCS for Sulfide was within the 20% Relative Percent Difference (RPD) control limit.

7. The matrix spike recoveries were within the 75-125% control limits.

8. The replicate analyses were within the 20% 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

5/27/08
Date

njp\i04-013

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

	ASTM	SW846	OTHER
% 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) 9034	
Specific Gravity	__ D1429-76C/	__ D5057-90	
Sulfur, Total		__ 9056	
Synthetic Preparation Leach		__ 1312	
Paint Filter		__ 9095A	

Other: Specific Conductance **Method:** SW9050 (mod.)

Other: **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 05/27/08

CLIENT: TNUHANFORD F08-066 H3700 LVL LOT #: 0804L013
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B1TFC0	% Solids	91.9	%	0.01	1.0
		Chromium VI	0.22 u	MG/KG	0.22	1.0
		Sulfide	24.1 u	MG/KG	24.1	1.0
		Specific Conductance	49.6	UMHOS/C	1.0	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/27/08

CLIENT: TNUHANFORD F08-066 H3700 LVL LOT #: 0804L013

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	08LVI040-MB1	Chromium VI	0.20 u	MG/KG	0.20	1.0
BLANK10	08LSD032-MB1	Sulfide	20.6 u	MG/KG	20.6	1.0
BLANK10	08LSP010-MB1	Specific Conductance	1.0 u	UMHOS/C	1.0	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 05/27/08

CLIENT: TNUHANFORD F08-066 H3700 LVL LOT #: 0804L013

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B1TFC0	Soluble Chromium VI	4.1	0.22u	4.4	94.9	1.0
		Insoluble Chromium VI	1100	0.22u	1050	104.6	100
		Sulfide	248	14.5	271	86.2	1.0
BLANK10	08LVI040-MB1	Soluble Chromium VI	4.1	0.20u	4.0	103.5	1.0
		Insoluble Chromium VI	1090	0.20u	1040	104.8	100
BLANK10	08LSD032-MB1	Sulfide	234	20.6 u	249	94.0	1.0
		Sulfide MSD	230	20.6 u	252	91.5	1.0
BLANK10	08LSP010-MB1	Specific Conductance	719	1.0 u	718	100.2	1.0

Lionville Laboratory, Inc.

INORGANICS DUPLICATE SPIKE REPORT 05/27/08

CLIENT: TNUHANFORD F08-066 H3700 LVL LOT #: 0804L013

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

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
BLANK10	08LSD032-MB1	Sulfide	94.0	91.5	2.6

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 05/27/08

CLIENT: TNUHANFORD F08-066 H3700 LVL LOT #: 0804L013

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B1TFC0	% Solids	91.9	91.6	0.38	1.0
		Chromium VI	0.22u	0.22u	NC	1.0
		Sulfide	24.1 u	22.4 u	NC	1.0
		Specific Conductance	49.6	51.1	3.0	1.0

See SRC

Revision

Lionville Laboratory Use Only
0804L013

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LvLI LIONVILLE LABORATORY INC.

Client TNU HANFORD SAF # F08-066

Est. Final Proj. Sampling Date

Project# 11343-606-001-9999-00

Project Contact/Phone#

Lionville Laboratory Project Manager O. JOHNSON

QC SW846 Del STD TAT 30days

Date Rec'd 4-29-08 Date Due 5-29-08

	Refrigerator #	#/Type Container (Liquid / Solid)	Volume	Preservatives
ORGANIC: VOA				
ORGANIC: BNA				
ORGANIC: Pest/PCB				
ORGANIC: Herb				
INORG: Metal				
INORG: CN				
Hex Chromium	A 3	1G	125	
8030 [illegible]				
Sulfide				

ANALYSES REQUESTED →

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	VOA	BNA	Pest/PCB	Herb					Metal	CN	ICR6	ISFD	ISPCD
001	B1TFC0	/	/	Soil	4-3-08	1030											X	X	X

Special Instructions:

Special Instructions:
5-8-08 1. Add ISPCD to Sample per Client
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	4/29/08	1000

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		"COMPOSITE WASTE"	

4

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F08-066-058	PAGE 1 OF 1
COLLECTOR NCO Sampler Connelly / Rosane	**COMPANY CONTACT** TRENT, SJ	**TELEPHONE NO.** 373-5869	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8N	**DATA TURNAROUND**
SAMPLING LOCATION C6174, I-001	**PROJECT DESIGNATION** 216-S-6 Crib Sampling - Soil		**SAF NO.** F08-066	**AIR QUALITY** ☐	45 Days / 45 Days
ICE CHEST NO. Alpha	**FIELD LOGBOOK NO.** HNF-N-585-5 pg 23.	**ACTUAL SAMPLE DEPTH** 3.5'	**COA** 123210ES20	**METHOD OF SHIPMENT** FEDERAL EXPRESS	
SHIPPED TO Lionville Laboratory Incorporated	**OFFSITE PROPERTY NO.** See PTR		**BILL OF LADING/AIR BILL NO.** See PTR 792047113230		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
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)

SPECIAL HANDLING AND/OR STORAGE
Radioactive Tie To: B1TF99

PRESERVATION	Cool~4C
TYPE OF CONTAINER	G
NO. OF CONTAINER(S)	1
VOLUME	120mL
SAMPLE ANALYSIS	Chromium Hex - 7196; Sulfides - 9030 {Sulfide}

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1TFC0	SOIL	4-3-8	1030	✓
			Lot#	024875

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
L.J. Rosane Larry Rosane	4-3-08 1130	ON SITE Ref	4-3-8 1130
D Connelly on site Ref	4-15-8 1330	D Connelly QC	4-15-8 1330
D Connelly QC	4-15-8 1500	D. Parch	4-15-08 1500
~~D. Parch~~ MO 745 Ref #1	4-15-08 1600	MO 745 Ref #1	4-15-08 1600
MO 745 Ref #1	4-28-08 1022	D. Parch	4-28-08 1022
D. Parch	4-28-08 1200	Fed EX	
Fed Ex	4-29-08 1000		4-29-08 1000

SIGN/ PRINT NAMES

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.

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

A-6003-618(01/06)

0000000011

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TMC HANFORD Date: 4/29/08

Project/SAP/SOW/Release #: F08-066

LvLI Batch #: 0804L013 Sample Custodian: Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FED EX		Airbill # 7920 4711 3230
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 5-9	°C	Cooler # ALPHA
How was the temperature taken?	☐ IR	☑ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☐ Yes mjf 5-21-08	☑ No	Sulfide past hold
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☐ Yes	☐ No	☑ N/A
14. QC stickers placed on bottles designated by client?	☑ Yes	☐ No	☐ 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.)	☐ Yes mjf 5-21-08	☑ No	All #12
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☐ N/A
Person Contacted _____		Date _____	

LVLI LIONVILLE LABORATORY INC.