RECEIVED JULY 10, 2008

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD F08-096 ~~K3769~~ H3769 DHayes 5/29/12

DATE RECEIVED: 06/11/08 LVL LOT # :0806L276

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1W0W4						
% SOLIDS	001	S	08L%S058	06/05/08	06/16/08	06/17/08
% SOLIDS	001 REP	S	08L%S058	06/05/08	06/16/08	06/17/08
SULFIDE	001	S	08LSD045	06/05/08	06/18/08	06/18/08
SULFIDE	001 REP	S	08LSD045	06/05/08	06/18/08	06/18/08
SULFIDE	001 MS	S	08LSD045	06/05/08	06/18/08	06/18/08
LAB QC:						
SULFIDE	MB1	S	08LSD045	N/A	06/18/08	06/18/08
SULFIDE	MB1 BS	S	08LSD045	N/A	06/18/08	06/18/08
SULFIDE	MB1 BSD	S	08LSD045	N/A	06/18/08	06/18/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD F08-096 H3769
LVL#: 0806L276

W.O.#: 11343-606-001-9999-00
Date Received: 06-11-08

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 time as required by the method and/or contract was not met for Sulfide.

4. The results presented in this report are derived from a sample that did not meet LvLI's sample acceptance policy as noted on the Sample Receipt Checklist.

5. The method blank for Sulfide was within the method criteria.

6. The Laboratory Control Samples (LCS) for Sulfide 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 recovery for Sulfide was 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

7/1/08
Date

njp\06-276

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: **Method:**

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 06/20/08

CLIENT: TNU-HANFORD F08-096 ~~K3769~~ H3769 Dayles 5/29/12
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L276

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B1W0W4	% Solids	96.6		%	0.01	1.0
		Sulfide	21.7	u	MG/KG	21.7	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/20/08

CLIENT: TNU-HANFORD F08-096 ~~H3769~~ H3769 Dayles 5/29/12
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L276

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	08LSD045-MB1	Sulfide	20.0 u	MG/KG	20.0	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 06/20/08

CLIENT: TNU-HANFORD F08-096 ~~H3968~~ H3769 Dayes 5/29/12
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0806L276

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B1W0W4	Sulfide	221	0.0	219	101.3	1.0
BLANK10	08LSD045-MB1	Sulfide	204	20.0 u	209	97.4	1.0
		Sulfide MSD	212	20.0 u	210	101.3	1.0

Lionville Laboratory, Inc.

INORGANICS DUPLICATE SPIKE REPORT 06/20/08

H3769 ~~K3768~~ Daynes 5/29/12

CLIENT: TNU-HANFORD F08-096 LVL LOT #: 0806L276
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
BLANK10	08LSD045-MB1	Sulfide	97.4	101.3	3.9

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 06/20/08

CLIENT: TNU-HANFORD F08-096 ~~K3769~~ H3769 DHayes 5/29/12 LVL LOT #: 0806L276
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B1W0W4	% Solids	96.6	96.1	0.47	1.0
		Sulfide	21.7 u	21.2 u	NC	1.0

REV. 1

MAY 29, 2012

Lionville Laboratory Use Only
0806L276

Custody Transfer Record/Lab Work Request

Page 1 of 1 See SRC

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU Hanford F08.096

Est. Final Proj. Sampling Date:

Project#: 11343-606-001-9999-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: Arlette Johnson

QC: SW846 Del: STD TAT: 30 days

Date Rec'd: 6.11.08 Date Due: 7-11-08

Refrigerator #											A					
#/Type Container	Liquid										2					
	Solid										1gl					
Volume	Solid										120					
Preservatives											—					
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb				INORG: Metal	CN	SFD					
		Lionville Laboratory Use Only														
											ISFD					
001	B1W0W4	✓	✓	S	6-5-08	1025					X					

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

Special Instructions:

Special Instructions:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Fed Ex	[signature]	6-11-08	0930

Relinquished by	Received by	Date	Time

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

0000000010

REV. 1

MAY 29, 2012

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F08-096-006	PAGE 1 OF 1
COLLECTOR NCO Sampler	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8N AIR QUALITY ☐	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C5941	PROJECT DESIGNATION 200-SC-1 - Waste Management (Saturated Zone)		SAF NO. F08-096		
ICE CHEST NO. GRP-08-15	FIELD LOGBOOK NO. HNF-N-488-1	ACTUAL SAMPLE DEPTH	COA 123055ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO. 7905 2388 0571		

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

PRESERVATION	Cool~4C
TYPE OF CONTAINER	G
NO. OF CONTAINER(S)	1
VOLUME	~~125mL~~ 120mL
SAMPLE ANALYSIS	Sulfides - 9030;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1W0W4	SOIL	6/5/2008	1025	X									
				024875									

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
DW Webb/DW Webb	6-5-08/1415	MO413 FRIDGE #2	6-5-08/1415
MO413 Fridge #2	6-10-8 1000	D Connolly	6-10-8 1000
D Connolly	6-10-8 1330	Fed Ex	
Fed Ex	6.11.08/0930	[signature]	6.11.08/0930

SPECIAL INSTRUCTIONS
Sample @ 295 Feet. Drum Number SC1-08-049 / 0050901. Radioactive tie to B1WOW1.

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

A-6003-618(01/06)

000000011

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: JNU Hanford
Project/SAF/SOW/Release #: F08-096
Date: 6-11-08
LvLI Batch #: 0806L276
Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7905 2388 0571
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 8.1	°C	Cooler # GRP-08-15
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify): [illegible] 6-11-08
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	☐ No	
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	☑ No	
16. Project Manager contacted concerning any discrepancies?	☑ Yes	☐ No	☐ N/A
Person Contacted [illegible]		Date 6-11-08	

LvLI LIONVILLE LABORATORY INC.