

RECEIVED JULY 8, 2008

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Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
TNU-HANFORD F08-043 H3682 ✓

DATE RECEIVED: 04/09/08

LVL LOT # :0804L889

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1TH31						
% SOLIDS	001	S	08L%S033	03/19/08	04/09/08	04/10/08
% SOLIDS	001 REP	S	08L%S033	03/19/08	04/09/08	04/10/08
CHROMIUM VI	001	S	08LVI034	03/19/08	04/14/08	04/14/08
CHROMIUM VI	001 REP	S	08LVI034	03/19/08	04/14/08	04/14/08
CHROMIUM VI	001 MS	S	08LVI034	03/19/08	04/14/08	04/14/08
CHROMIUM VI	001 MSD	S	08LVI034	03/19/08	04/14/08	04/14/08
SULFIDE	001	S	08LSD024	03/19/08	04/11/08	04/11/08
SULFIDE	001 REP	S	08LSD024	03/19/08	04/11/08	04/11/08
SULFIDE	001 MS	S	08LSD024	03/19/08	04/11/08	04/11/08

LAB QC:

CHROMIUM VI	MB1	S	08LVI034	N/A	04/14/08	04/14/08
CHROMIUM VI	MB1 BS	S	08LVI034	N/A	04/14/08	04/14/08
CHROMIUM VI	MB1 BSD	S	08LVI034	N/A	04/14/08	04/14/08
SULFIDE	MB1	S	08LSD024	N/A	04/11/08	04/11/08
SULFIDE	MB1 BS	S	08LSD024	N/A	04/11/08	04/11/08
SULFIDE	MB1 BSD	S	08LSD024	N/A	04/11/08	04/11/08

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## Analytical Report

Client: TNU-HANFORD F08-043  
LVL#: 0804L889

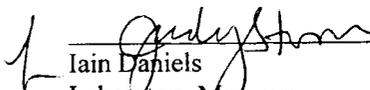
W.O.#: 11343-606-001-9999-00  
Date Received: 04-09-08

### INORGANIC NARRATIVE

1. This narrative covers the analyses of 1 soil sample.
2. The sample was prepared and analyzed in accordance with the methods checked 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.
4. The results presented in this report are derived from a sample that met LvLI's sample acceptance policy with the excetion 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.
7. The matrix spike recoveries were within the 75-125% control limits.
8. The replicate analysis for Sulfide was 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

4/16/08  
Date

njp\04-889

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.

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## 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) 19034	
Specific Gravity	___ D1429-76C/	___ D5057-90	
Sulfur, Total		___ 9056	
Synthetic Preparation Leach		___ 1312	
Paint Filter		___ 9095A	
<b>Other:</b>	<b>Method:</b>		
<b>Other:</b>	<b>Method</b>		

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# 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.

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INORGANICS DATA SUMMARY REPORT 04/16/08

CLIENT: TNU-HANFORD F08-043  
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0804L889

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B1H31	% Solids	94.2	%	0.01	1.0
		Chromium VI	0.21	u MG/KG	0.21	1.0
		Sulfide	25.3	u MG/KG	25.3	1.0

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/16/08

CLIENT: TNU-HANFORD F08-043

LVL LOT #: 0804L889

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	08LVI034-MB1	Chromium VI	0.20	u MG/KG	0.20	1.0
BLANK10	08LSD024-MB1	Sulfide	21.9	u MG/KG	21.9	1.0

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INORGANICS ACCURACY REPORT 04/16/08

CLIENT: TNU-HANFORD F08-043

LVL LOT #: 08041889

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B1TH31	Soluble Chromium VI	4.4	0.21u	4.2	102.8	1.0
		Insoluble Chromium VI	1160	0.21u	1050	110.1	100
		Sulfide	288	2.5	311	91.9	1.0
BLANK10	08LVI034-MB1	Soluble Chromium VI	4.0	0.20u	4.0	100.8	1.0
		Insoluble Chromium VI	1260	0.20u	1230	102.1	100
BLANK10	08LSD024-MB1	Sulfide	280	21.9 u	293	95.7	1.0
		Sulfide MSD	283	21.9 u	291	97.2	1.0

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INORGANICS DUPLICATE SPIKE REPORT 04/16/08

CLIENT: TNU-HANFORD F08-043  
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0804L889

SAMPLE	SITE ID	ANALYTE	SPIKE#1 SPIKE#2		%DIFF
			%RECOV	%RECOV	
BLANK10	08LSD024-MB1	Sulfide	95.7	97.2	1.6

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INORGANICS PRECISION REPORT 04/16/08

CLIENT: TNU-HANFORD F08-043

LVL LOT #: 0804L889

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-001REP	B1TH31	% Solids	94.2	94.2	0.053	1.0
		Chromium VI	0.21u	0.21u	NC	1.0
		Sulfide	25.3 u	23.3 u	NC	1.0

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