

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD W03-007 H2315

DATE RECEIVED: 08/19/03

LVL LOT # :0308L227

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
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B17C18

TOTAL ORGANIC CARBON	001	W	03LTC032	08/14/03	09/02/03	09/02/03
TOTAL ORGANIC CARBON	001 REP	W	03LTC032	08/14/03	09/02/03	09/02/03
TOTAL ORGANIC CARBON	001 MS	W	03LTC032	08/14/03	09/02/03	09/02/03

B17C19

TOTAL ORGANIC CARBON	002	W	03LTC032	08/14/03	09/02/03	09/02/03
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B17C20

TOTAL ORGANIC CARBON	003	W	03LTC032	08/14/03	09/02/03	09/02/03
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B17C21

TOTAL ORGANIC CARBON	004	W	03LTC032	08/14/03	09/02/03	09/02/03
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LAB QC:

TOTAL ORGANIC CARBON	MB1	W	03LTC032	N/A	09/02/03	09/02/03
TOTAL ORGANIC CARBON	MB1 BS	W	03LTC032	N/A	09/02/03	09/02/03



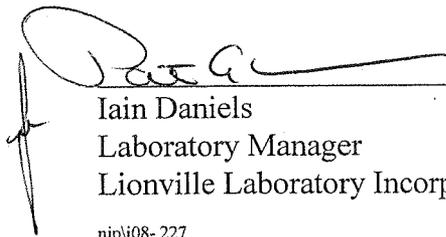
Analytical Report

Client: TNU-HANFORD W03-008 H2315
LVL#: 0308L227

W.O.#: 11343-606-001-9999-00
Date Received: 08-19-03

INORGANIC NARRATIVE

1. This narrative covers the analysis of 4 water samples.
2. The samples were prepared and analyzed in accordance with the methods indicated on the attached glossary.
3. Sample holding times as required by the method and/or contract were met.
4. The results presented in this report are derived from samples that met LvLI's sample acceptance policy.
5. The method blank was within the method criteria.
6. The Laboratory Control Sample (LCS) was within the laboratory control limits.
7. The matrix spike recovery for sample B17C18 was within the 75-125% control limits.
8. The replicate analysis for sample B17C18 was within the 20% Relative Percent Difference (RPD) control limit.
9. 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
njpl08-227

09-05-03
Date

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 WATER SAMPLE ANALYSIS

	<u>EPA /600</u>	<u>SW846</u>	<u>OTHER</u>
Acidity	305.1		
___Alkalinity ___Bicarbonate ___Carbonate	310.1		
BOD	405.1		5210B (b)
Ion Chromatography:			
___Bromide ___Chloride ___Fluoride	300.0	9056	
___Nitrate ___Nitrite ___Phosphate	300.0	9056	
___Sulfate ___Formate ___Acetate ___Oxalate	300.0	9056	
Chloride	325.2	9251	
Chlorine, Residual	330.5 (mod)		
Cyanide, Amenable to Chlorination	335.2	9010B	
Cyanide, Total	335.2	9010B	9014 ILMO4.0 (e)
Cyanide, Weak Acid Dissociable			412 (a) 4500CN-I (b)
COD	410.4(mod)		5220C (b)
Color	110.2		
Corrosivity by Coupon		1110(mod)	
Chromium VI		7196A	3500Cr-D (b)
Fluoride	340.2		4500-FC
Hardness, Calcium	215.2		
Hardness, Total	130.2		
Iodide			ASTM D19P202 (1)
Surfactant	425.1		
___Nitrate-Nitrite ___Nitrate ___Nitrite	353.2		
Ammonia	350.3		
Total ___Kjeldahl ___Organic Nitrogen	351.3		
Total <input checked="" type="checkbox"/> Organic ___Inorganic Carbon	415.1	<input checked="" type="checkbox"/> 9060	
Oil & Grease	413.1	9070	
___pH ___pH; paper	150.1	9040B 9041A	
Petroleum Hydrocarbons, Total Recoverable	418.1		
Phenol	420.1	420.2 9065 9066	
___Ortho ___Total Phosphate	365.2		4500-P B C 210A (a) 2520 (b)
Salinity			
Settleable Solids	160.5		
Sulfide	376.1		9030B/9034 (acid soluble)
Reactive ___Cyanide ___Sulfide		Section 7.3 (___9014___9030B)	
Silica	370.1		
Sulfite	377.1		
Sulfate	375.4	9038	
Specific Conductance	120.1	9050A	
Specific Gravity			D5057-90 213E (a)
Synthetic Precipitation Leach		1312	
Total ___Dissolved ___Suspended ___Solids	160 ___1 ___2 ___3		
Total Organic Halides	450.1	9020B	
Turbidity	180.1		
Volatile Solids:			
___Total ___Dissolved ___Suspended	160.4		
Other:		Method:	

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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 09/03/03

CLIENT: TNUHANFORD W03-007 H2315
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0308L227

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
-001	B17C18	Total Organic Carbon	2.2	MG/L	0.50	1.0
-002	B17C19	Total Organic Carbon	2.3	MG/L	0.50	1.0
-003	B17C20	Total Organic Carbon	2.3	MG/L	0.50	1.0
-004	B17C21	Total Organic Carbon	2.4	MG/L	0.50	1.0

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 09/03/03

CLIENT: TNUHANFORD W03-007 H2315
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0308L227

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
BLANK10	03LTC032-MB1	Total Organic Carbon	0.50 u	MG/L	0.50	1.0

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INORGANICS ACCURACY REPORT 09/03/03

CLIENT: TNUHANFORD W03-007 H2315
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0308L227

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	B17C18	Total Organic Carbon	7.2	2.2	5.0	99.5	1.0
BLANK10	03LTC032-MB1	Total Organic Carbon	5.0	0.50u	5.0	99.1	1.0

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INORGANICS PRECISION REPORT 09/03/03

CLIENT: TNUHANFORD W03-007 H2315
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0308L227

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
=====	=====	=====	=====	=====	=====	=====
-001REP	B17C18	Total Organic Carbon	2.2	2.2	0.045	1.0

DASH	SAMPLE IDENTIFICATION	STORED	TESTS
01A-W	B17C18	LION	DISPOS E_BTL
01B-W	B17C18	LION	E158
02A-W	B17C19	LION	DISPOS E158
03A-W	B17C20	LION	DISPOS E158
04A-W	B17C21	LION	DISPOS E158
04B-W	B17C21 MS	LION	E158
04C-W	B17C21 DUP	LION	E158

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
<i>Ken A</i>	8/18/03	LIONVILLE			

LIONVILLE LABORATORY INCORPORATED

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hamford

DATE: 8-19-03

Purchase Order/Project:

SAF# / SOW# / Release #: W03-007

Laboratory SDG #:

0308L227

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	<input type="checkbox"/> see Comment #
1. Custody seals on coolers or shipping container intact, signed and dated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Outside of coolers or shipping containers are free from damage?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Airbill # recorded?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Sample containers are intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Custody seals on sample containers intact, signed and dated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. All samples on coc received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. All sample label information matches coc?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Shipment meets LvLI Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Where applicable, bar code labels are affixed to coc?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. coc signed and dated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. coc will be faxed or emailed to client?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Project Manager/Client contacted concerning discrepancies? (name/date)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Cooler # / temp (°C) and Comments:

SML-534 / 0.8°

Laboratory Sample Custodian:

D. Y. Green

Laboratory Project Manager: