

REVIEW COMMENT RECORD (RCR)

REVIEW COMMENT RECORD (RCR)		1. Date 08/08/05		2. Review No.	
		3. Project No. BC Control Area		4. Page 1 of 1	
5. Document Number(s)/Title(s) Validation Package for SD6 H3118		6. Program/Project/Building Number Surface Soil Sampling		7. Reviewer RL Weiss	
		8. Organization/Group ERC - S&DM		9. Location/Phone Sigma 1 372-9631	
17. Comment Submittal Approval: _____ Organization Manager (Optional)		10. Agreement with indicated comment disposition(s) 08/08/2005 Date R. L. Weiss Reviewer/Point of Contract R. L. Weiss Author/Originator		11. Closed _____ Reviewer/Point of Contact _____ Date _____ Author/Originator	
12. Item	13. Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	14. Reviewer Concurrence Required	15. Disposition (Provide justification if NOT accepted.)		16. Status
1	No Comments				

RECEIVED

NOV 09 2005

EDMC

0067495

Ayres, Doris E

From: Thackaberry, W R (Bill)
Sent: Monday, August 08, 2005 10:07 AM
To: Lynch, Sherry A; Ayres, Doris E
Subject: H3118

I have no comment on the Wet Chemistry section of H3118. I will leave the package in the box on Lee's desk.

Bill Thackaberry

8/8/2005

Date: 13 July 2005
To: Fluor Hanford Inc. (technical representative)
From: TechLaw, Inc.
Project: BC Controlled Area Surficial Soil Characterization
Subject: Wet Chemistry - Data Package No. H3118

INTRODUCTION

This memo presents the results of data validation on Data Package No. H3118 prepared by Lionville Laboratory, Inc. (LLI). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample	Media	Validation	Analysis
B1CHC5	3/11/05	Soil	C	See note 1
B1CHH3	3/11/05	Soil	C	See note 1
B1CHC6	3/11/05	Soil	C	See note 1
B1CHH4	3/11/05	Soil	C	See note 1
B1CHC7	3/11/05	Soil	C	See note 1
B1CHH5	3/11/05	Soil	C	See note 1

1 - Nitrate/nitrite by 353.2 and chromium VI by 7196A.

Data validation was conducted in accordance with the FHI validation statement of work and the Sampling and Analysis Instruction for the BC Controlled Area Soil Characterization, D&D-24693, Rev. 0. Appendices 1 through 6 provide the following information as indicated below:

- Appendix 1. Glossary of Data Reporting Qualifiers
- Appendix 2. Summary of Data Qualification
- Appendix 3. Qualified Data Summary and Annotated Laboratory Reports
- Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
- Appendix 5. Data Validation Supporting Documentation
- Appendix 6. Additional Documentation Requested by Client

DATA QUALITY PARAMETERS

• Holding Times/Sample Preservation

Analytical holding times are assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: Soil samples must be analyzed within 30 days for chromium VI and 28 days for nitrate/nitrite.



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If holding times are exceeded, but not by greater than two times the limit, all associated sample results are qualified as estimates and flagged "J" for detects and "UJ" for non-detects. If holding times are exceeded by greater than two times the limit, all associated detectable sample results are qualified as estimates and flagged "J" and all non-detects are rejected and flagged "UR". If the holding time is exceeded and the samples not properly preserved, results are rejected and flagged "R/UR".

Due to the samples not being properly preserved (cooler temperature of 9.6°C) and the holding time being exceeded, all chromium VI and nitrate/nitrite results were rejected and flagged "R".

All other holding times were acceptable.

- **Method Blanks**

Method Blanks

Method blank analyses are performed to determine the extent of laboratory contamination introduced through sampling, sample preparation and analysis. At least one acceptable method blank analysis must be conducted for every 20 samples. No contaminants should be present in the method blank. All blank results must fall below the contract required detection limit (CRQL) to be acceptable.

All method blank results were acceptable.

Field (Equipment) Blank

No equipment blanks were submitted for analysis.

- **Accuracy**

Matrix Spike

Matrix spike (MS) analyses are used to assess the analytical accuracy of the reported data. The matrix spike is used to assess the effect of the matrix on the ability to accurately quantify sample concentrations. Matrix spike and LCS recoveries must fall within the range of 70% to 130%. Samples with a recovery of less than 30% and a sample result below the IDL are rejected and flagged "UR". Samples with a recovery of 30% to 70% and a sample result less than the IDL are qualified "UJ". Samples with a recovery of greater than 130% or less than 70% and a sample result greater than the IDL are qualified as estimates and flagged "J". Finally, for samples with a recovery greater than 130% and a sample result less than the IDL, no qualification is required.

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All matrix spike recovery results were acceptable.

Laboratory Control Sample

The LCS is used to monitor the overall performance of all steps in the analysis. Recoveries must fall within the range of 70% to 130% for LCS analysis. Samples with a recovery of less than 50% are rejected and flagged "UR". Samples with a recovery of 50% to 69% and a sample recovery below the IDL are qualified "UJ". Samples with a recovery of greater than 130% or less than 70% and a sample result greater than the IDL are qualified as estimates and flagged "J". Finally, for samples with a recovery greater than 130% and a sample result less than the IDL, no qualification is required.

All LCS results were acceptable.

- **Precision**

Laboratory Duplicate Samples

Analytical precision is expressed by the relative percent differences (RPD) between the recoveries of matrix spike duplicate (MSD) analyses performed on a sample in the analytical batch. Precision may alternatively be assessed using unspiked duplicate analyses performed on a sample in the analytical batch. If both sample and replicate activities (concentrations) are greater than five times the CRDL and the RPD is less than 30%, no qualification is required. If either activity (concentration) is less than five times the CRDL, the RPD control limit is less than or equal to two times the CRDL. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects or estimated non-detects.

All laboratory duplicate results were acceptable.

Field Duplicate

No field duplicates were submitted for analysis.

- **Analytical Detection Levels**

Reported analytical detection levels are compared against the required target quantitation limits (RTQLs) to ensure that laboratory detection levels meet the required criteria. All results met the RTQL.

- **Completeness**

Data package No. H3118 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 0%.

MAJOR DEFICIENCIES

Due to the samples not being properly preserved (cooler temperature of 9.6°C) and the holding time being exceeded, all chromium VI and nitrate/nitrite results were rejected and flagged "R". Rejected data is unusable and should not be reported.

MINOR DEFICIENCIES

None found.

REFERENCES

FHI, Contract #20266, *Validation Statement of Work*, Fluor Hanford Incorporated, July 7, 2003.

D&D-24693, Rev. 0, *Sampling and Analysis Instruction for the BC Controlled Area Soil Characterization*.

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Appendix 1
Glossary of Data Reporting Qualifiers

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Qualifiers which may be applied by data validators in compliance with FHI validation SOW are as follows:

- U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.
- UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.
- J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated concentration is an estimate, but the data are usable for decision-making purposes.
- BJ - Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.
- R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.
- UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.
- NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).
- N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

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Appendix 2

Summary of Data Qualification

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WET CHEMISTRY DATA QUALIFICATION SUMMARY*

SDG: H3118	REVIEWER: TLI	PROJECT: BC Controlled Area Surficial Soil Characterization	PAGE <u>1</u> OF <u>1</u>
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Chromium VI Nitrate/nitrite	R	All	Holding time and sample preservation (cooler temperature)

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Qualified Data Summary and Annotated Laboratory Reports

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Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/16/05

CLIENT: TNUHANFORD F05-014 R3118
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0504L162

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B1CHC5	% Solids	96.0	%	0.01	1.0
		Chromium VI	0.26	R MG/KG	0.21	1.0
		Nitrate Nitrite	9.5	R MG/KG	0.21	1.0
-002	B1CHH3	% Solids	98.6	%	0.01	1.0
		Chromium VI	0.20	uR MG/KG	0.20	1.0
		Nitrate Nitrite	3.8	R MG/KG	0.20	1.0
-003	B1CHC6	% Solids	96.3	%	0.01	1.0
		Chromium VI	0.29	R MG/KG	0.21	1.0
		Nitrate Nitrite	2.4	R MG/KG	0.21	1.0
-004	B1CHH4	% Solids	98.4	%	0.01	1.0
		Chromium VI	0.30	R MG/KG	0.20	1.0
		Nitrate Nitrite	1.8	R MG/KG	0.20	1.0
-005	B1CHC7	% Solids	95.5	%	0.01	1.0
		Chromium VI	0.39	R MG/KG	0.21	1.0
		Nitrate Nitrite	3.0	R MG/KG	0.21	1.0
-006	B1CHH5	% Solids	97.8	%	0.01	1.0
		Chromium VI	0.88	R MG/KG	0.20	1.0
		Nitrate Nitrite	2.6	R MG/KG	0.20	1.0

[Handwritten Signature]
 7/12/05

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

000012



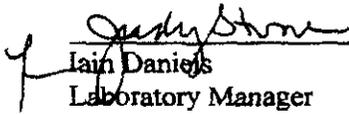
Analytical Report

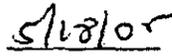
Client: TNU-HANFORD F05-014 H3118
LVL#: 0504L162

W.O.#: 11343-606-001-9999-00
Date Received: 04-06-05

INORGANIC NARRATIVE

1. This narrative covers the analyses of 6 soil 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 with the exception of Chromium VI that were analyzed 1 day past the method holding time of 30 days.
4. The results presented in this report are derived from samples that did not meet LVL's sample acceptance policy 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 for Chromium VI and Nitrate Nitrite were within the 75-125% control limits.
8. The replicate analyses for Chromium VI and Nitrate Nitrite were outside the 20% Relative Percent Difference (RPD) control limit that may be attributed to sample inhomogeneity.
9. Results for solid 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

njl04-162

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 14 pages.

000013

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

COLLECTOR HUGHES, KD

COMPANY CONTACT BAUER, RG

TELEPHONE NO. 376-5908

PROJECT COORDINATOR TRENT, SJ

PRICE CODE BH

AIR QUALITY

DATA TURNAROUND 30 Days / 30 Days

SAMPLING LOCATION BC Controlled Area - Focused

PROJECT DESIGNATION BC Controlled Area Surface Soil Characterization

ICE CHEST NO. GAP-05-013

FIELD LOGBOOK NO. COA 1191405E10

METHOD OF SHIPMENT Government Vehicle

BILL OF LADING/AIR BILL NO. MWT 4/5/05 See RSR E0014

SHIPPED TO Lonville Laboratory Incorporated

OFFSITE PROPERTY NO. MWT 4/5/05 See RSR E0014

PRESERVATION

TYPE OF CONTAINER

NO. OF CONTAINER(S)

VOLUME

SAMPLE ANALYSIS

SAMPLE DATE

SAMPLE TIME

MATRIX*

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE

SAMPLE NO.

SOIL

SOIL

3/11/05 10:15 X

3/11/05 10:15 X

8-11-05 15:45

3-11-05

mo-026 Site fridge #B 15:35

Greenhouse #2000

4/15/05 06:50

4/15/05 06:50

4/15/05 06:50

4/15/05 06:50

4/15/05 06:50

4/15/05 06:50

4/15/05 06:50

4/15/05 06:50

4/15/05 06:50

MATRIX* A-1

DL-Drum

Liquids

GS-Drum

Solids

L-Liquid

O-Oil

S-Sol

SE-Sediment

T-Tissue

V-Vaporization

W-Water

WI-Wipe

X-Other

CHAIN OF POSSESSION

REMOVED FROM DATE/TIME

SPECIAL INSTRUCTIONS

SIGN/PRINT NAMES

RECEIVED BY/STORED IN DATE/TIME

TITLE

DATE/TIME

DISPOSED BY

DATE/TIME

COLLECTOR HUGHES, KD	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 376-5908	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION BC Controlled Area - Focused <i>A2</i>	PROJECT DESIGNATION BC Controlled Area Surficial Soil Characterization	SAF NO. F05-014	AIR QUALITY	30 Days / 30 Days	
ICE CHEST NO. <i>GRP-05-013</i>	FIELD LOGBOOK NO.	CDA 119140E510	METHOD OF SHIPMENT Government Vehicle		

SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. <i>See RSR E0014</i>	BILL OF LADING/AIR BILL NO. <i>See RSR E0014</i>
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MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		Cool <i>4C</i>	4G	1	60ML	PCB/PCB - 303.2; Chromium Pb - 7204
	SPECIAL HANDLING AND/OR STORAGE					

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1CHC6	SOL 1'	3/11/05	1040	X
B1CHH4	SOIL 3'	3/11/05	1040	Y

000015

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>Shawn D. G. [Signature]</i>	DATE/TIME 3/11/05 15:35	RECEIVED BY/STORED IN MO 026 Frid #3
RELINQUISHED BY/REMOVED FROM Mo-026 Fridge #3	DATE/TIME 4/5/05 6:50	RECEIVED BY/STORED IN Greg Thomas [Signature]
RELINQUISHED BY/REMOVED FROM Greg Thomas [Signature]	DATE/TIME 4/5/05 0650	RECEIVED BY/STORED IN Fed Ex
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME	RECEIVED BY/STORED IN J Perry
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

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

HUGHES, KD	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 376-5908	PROJECT COORDINATOR TRENT, SJ	PRICE CODE BH	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION BC Controlled Area - Focused A2	PROJECT DESIGNATION BC Controlled Area Surficial Soil Characterization	SAF NO. F05-014	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GRP-05-013	FIELD LOGBOOK NO.	COA 119140E510	METHOD OF SHIPMENT Government Vehicle		
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. 4/5/05 See RSR E0014	BILL OF LADING/AIR BILL NO. 4/5/05 See RSR E0014			

MATRIX* A=Air DL=Drum L=Liquid DS=Drum S=Soil L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION Cool 4C	TYPE OF CONTAINER 4G					
			NO. OF CONTAINER(S)					
			VOLUME 60mL					
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS MILLICOR - 333.1; Chromium Pb - 7190						

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B1CHC7	SOIL 1'	3/11/05	1200	X					
B1CHH5	SOIL 3'	3/11/05	1200	Y					

000016

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <i>Rain Hughes</i>	DATE/TIME <i>3-11-05 15:35</i>	RECEIVED BY/STORED IN <i>NO-026 Fidge</i>	DATE/TIME <i>3/11-05/15:35</i>		
RELINQUISHED BY/REMOVED FROM <i>MI-026 Fridge #3</i>	DATE/TIME <i>4/5/05 0650</i>	RECEIVED BY/STORED IN <i>Greg Thomas</i>	DATE/TIME <i>4/5/05 0650</i>		
RELINQUISHED BY/REMOVED FROM <i>Greg Thomas</i>	DATE/TIME <i>4/5/05 0650</i>	RECEIVED BY/STORED IN <i>Fed Ex</i>	DATE/TIME <i>4/6/05 0945</i>		
RELINQUISHED BY/REMOVED FROM <i>Fed Ex</i>	DATE/TIME	RECEIVED BY/STORED IN <i>JPerry</i>	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

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

Appendix 5
Data Validation Supporting Documentation

000017

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT:	H318 BC Controlled Area		DATA PACKAGE: H3118		
VALIDATOR:	TL	LAB:	LLI	DATE: 7/2/05	
			SDG:	H3118	
ANALYSES PERFORMED					
Anions/IC	TOC	TOX	TPH-418.1	Oil and Grease	Alkalinity
Ammonia	BOD/COD	Chloride	Chromium-VI	pH	NO₃/NO₂
Sulfate	TDS	TKN	Phosphate		
SAMPLES/MATRIX					
BICHCS BICHH3 BICHEC BICHH4 BICHH7 BICHH5					
Soil					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? Yes **No** N/A

Comments: _____

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations performed on all instruments? Yes No **N/A**

Initial calibrations acceptable? Yes No **N/A**

ICV and CCV checks performed on all instruments? Yes No **N/A**

ICV and CCV checks acceptable? Yes No **N/A**

Standards traceable? Yes No **N/A**

Standards expired? Yes No **N/A**

Calculation check acceptable? Yes No **N/A**

Comments: _____

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

- ICB and CCB checks performed for all applicable analyses? (Levels D, E)..... Yes No N/A
- ICB and CCB results acceptable? (Levels D, E) Yes No N/A
- Laboratory blanks analyzed? Yes No N/A
- Laboratory blank results acceptable?..... Yes No N/A
- Field blanks analyzed? (Levels C, D, E) Yes No N/A
- Field blank results acceptable? (Levels C, D, E)..... Yes No N/A
- Transcription/calculation errors? (Levels D, E)..... Yes No N/A

Comments: no FB

4. ACCURACY (Levels C, D, and E)

- Spike samples analyzed? Yes No N/A
- Spike recoveries acceptable? Yes No N/A
- Spike standards NIST traceable? (Levels D, E)..... Yes No N/A
- Spike standards expired? (Levels D, E)..... Yes No N/A
- LCS/BSS samples analyzed? Yes No N/A
- LCS/BSS results acceptable?..... Yes No N/A
- Standards traceable? (Levels D, E)..... Yes No N/A
- Standards expired? (Levels D, E)..... Yes No N/A
- Transcription/calculation errors? (Levels D, E)..... Yes No N/A
- Performance audit sample(s) analyzed? Yes No N/A
- Performance audit sample results acceptable?..... Yes No N/A

Comments: no PK

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

- Duplicate RPD values acceptable? Yes No N/A
- Duplicate results acceptable? Yes No N/A
- MS/MSD standards NIST traceable? (Levels D, E) Yes No N/A
- MS/MSD standards expired? (Levels D, E) Yes No N/A
- Field duplicate RPD values acceptable? Yes No N/A
- Field split RPD values acceptable? Yes No N/A
- Transcription/calculation errors? (Levels D, E) Yes No N/A

Comments: _____

6. HOLDING TIMES (all levels)

- Samples properly preserved? Yes No N/A
- Sample holding times acceptable? Yes No N/A

Comments: all 52X hold time
Cooler temp 9.6°C → R all

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

7. RESULT QUANTITATION AND DETECTION LIMITS (all levels)

- Results reported for all requested analyses? Yes No ~~N/A~~ *TS*
- Results supported in the raw data? (Levels D, E) Yes No N/A
- Samples properly prepared? (Levels D, E) Yes No N/A
- Detection limits meet RDL? Yes No N/A
- Transcription/calculation errors? (Levels D, E) Yes No N/A

Comments: _____

Appendix 6

Additional Documentation Requested by Client

000022

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/16/05

CLIENT: TNUHANFORD P05-014 R3118
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0504L162

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	05LVI030-MB1	Chromium VI	0.20 u	MG/KG	0.20	1.0
BLANK10	05LN3B29-MB1	Nitrate Nitrite	0.20 u	MG/KG	0.20	1.0

000023

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Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 05/16/06

CLIENT: TOWNSEND PDS-014 H3118
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 05041162

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-002	B1CKK3	Soluble Chromium VI	4.4	0.20u	4.1	104.8	1.0
		Insoluble Chromium VI	1260	0.20u	1180	106.6	100
-003	B1CHC6	Nitrate Nitrite	7.2	2.4	5.2	91.8	2.0
BLANK10	05LV1030-MB1	Soluble Chromium VI	4.1	0.20u	4.0	101.8	1.0
		Insoluble Chromium VI	1350	0.20u	1200	111.8	100
BLANK10	05LN3B29-MB1	Nitrate Nitrite	5.2	0.20u	5.0	105.0	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 05/16/05

CLIENT: THORNFORD F05-014 H3118
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 05041162

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-002REP	B1CHD3	Chromium VI	0.20u	0.35	69.0	1.0
-003REP	B1CHC6	Nitrate Nitrite	2.4	1.8	31.0	1.0

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TRULTANford

Date: 4/6/05

Purchase Order / Project# /
 SAFM / SOW# / Release #: F05-014

LvLI Batch #: 0504162

Sample Custodian: Renny

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|---|
| 1. Samples Hand Delivered or <u>Shipped</u> | Carrier <u>FedEx</u> | Airbill# <u>847430505904</u> |
| 2. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals Comments |
| 3. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| <u>5.</u> Samples received <u>cooled</u> or ambient? | Temp <u>9.6 °C</u> | Cooler # <u>GRP-05-013</u> |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals |
| 7. coc signed and 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 | |
| 10. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| <u>11.</u> Samples properly preserved? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <u>warm sec# 5</u> |
| 12. Samples received within hold times? Short holds taken to wet lab? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 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 type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <u>see # 5, 11</u> |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Discrepancies |

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD F05-014 H3118

DATE RECEIVED: 04/06/05

LVL LOT # :0504L162

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM VI	006	S	05LVI030	03/11/05	04/12/05	04/12/05
NITRATE NITRITE	006	S	05LN3B29	03/11/05	05/11/05	05/11/05

LAB QC:

CHROMIUM VI	MB1	S	05LVI030	N/A	04/12/05	04/12/05
CHROMIUM VI	MB1 BS	S	05LVI030	N/A	04/12/05	04/12/05
CHROMIUM VI	MB1 BSD	S	05LVI030	N/A	04/12/05	04/12/05
NITRATE NITRITE	MB1	S	05LN3B29	N/A	05/11/05	05/11/05
NITRATE NITRITE	MB1 BS	S	05LN3B29	N/A	05/11/05	05/11/05