0077005

SAF-RC-032
100-F Remaining Sites Burial Grounds - Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Jeff DeBuigne	X9-07	KW 4/14/08 INITIAL/DATE
Kathy Wendt	H4-21	KW 4/1408 INITIAL/DATE

COMMENTS:

SDG K1155 SAF-RC-032

Rad only X Chem only Rad & Chem

X Complete Partial

Waste Site: **120-F-1 Glass Dump Verification phase 2**

RECEIVED
MAY 0 1 2008
EDMC

LIONVILLE LABORATORY INC.

11 April 2008

RECEIVED APR 2008

Joan Kessner
WC-Hanford
2620 Fermi Avenue
MSIN H9-03
Richland, WA 99354

Subject: Analytical Data Package

Dear Ms. Kessner:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	0803L785
SDG #	K1155
SAF #	RC-032
Date Received	3/20/08
# Samples	12
Matrix	SOIL
Volatiles	
Semivolatiles	X
Pest/PCB	X
Glycols	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	X
Inorganics	X

The electronic data deliverable (EDD) will be emailed shortly. If you have any questions, please don't hesitate to contact me at (610) 280-3012.

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager

r:\group\pm\orlette\tnu-hanford\data\b_ltrs.doc

208 Welsh Pool Road • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032 K1155

RECEIVED APR 2008

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16DT7	002	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DT8	003	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DT8	003 MS	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DT8	003 MSD	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DT9	004	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV0	005	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV1	006	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV2	007	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV3	008	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV4	009	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV5	010	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV6	011	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV7	012	S	08LE0139	03/18/08	03/20/08	03/22/08

LAB QC:

PBLKOG	MB1	S	08LE0139	N/A	03/20/08	03/21/08
PBLKOG	MB1 BS	S	08LE0139	N/A	03/20/08	03/21/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-032
LVL #: 0803L785
SDG/SAF # K1155 / RC-032

W.O. #: 11343-606-001-9999-00
Date Received: 03-20-2008

CHLORINATED PESTICIDES

Eleven (11) soil samples were collected on 03-18-2008.

The samples and their associated QC samples were extracted on 03-20-2008 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 03-21,22-2008. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8081A.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of the QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. Samples were extracted and analyzed within required holding time
2. The method blank was below the reporting limits for all target compounds.
3. All surrogate recoveries were within acceptance criteria.
4. All blank spike recoveries were within acceptance criteria.
5. All matrix spike recoveries were within acceptance criteria.
6. Samples J16DT7, J16DT8, J16DT8 MS, J16DT8 MSD, J16DT9, J16DV0, J16DV1, J16DV2, J16DV3, J16DV4, J16DV5, J16DV6, and J16DV7 required a 4-fold instrument dilution due to the matrix.
7. The initial calibrations associated with this data set were within acceptance criteria.
8. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

k:\group\data\pest\tm\0803-785ln2.pest.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at 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.

LIONVILLE LABORATORY INC.

9. LvLI is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

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 data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

3/27/08
Date

208 Welsh Pool Road • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
B	=	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
.I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
P	=	This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.
NPM	=	No pattern match for multi-component target analytes.

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 03/24/08 14:06

RFW Batch Number: 0803L785 Client: TNU-HANFORD RC-032 Work Order: 11343606001 Page: 1

	Cust ID:	J16DT7		J16DT8		J16DT8		J16DT8		J16DT9		J16DV0	
Sample Information	RFW#:	002		003		003 MS		003 MSD		004		005	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	4.00		4.00		4.00		4.00		4.00		4.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate:	Tetrachloro-m-xylene	104	%	102	%	96	%	103	%	106	%	103	%
	Decachlorobiphenyl	90	%	89	%	81	%	89	%	94	%	92	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		1.4	U	1.4	U	100	%	103	%	1.4	U	1.3	U
gamma-BHC (Lindane)		1.4	U	1.4	U	103	%	107	%	1.4	U	1.3	U
Beta-BHC		1.4	U	1.4	U	105	%	109	%	1.4	U	1.3	U
Heptachlor		1.4	U	1.4	U	110	%	114	%	1.4	U	1.3	U
Delta-BHC		1.4	U	1.4	U	79	%	84	%	1.4	U	1.3	U
Aldrin		1.4	U	1.4	U	99	%	103	%	1.4	U	1.3	U
Heptachlor epoxide		1.4	U	1.4	U	105	%	108	%	1.4	U	1.3	U
gamma-Chlordane		1.4	U	1.8	J	99	%	103	%	1.4	U	1.3	U
Endosulfan I		1.4	U	1.4	U	101	%	105	%	1.4	U	1.3	U
alpha-Chlordane		1.4	U	1.6	J	99	%	103	%	1.4	U	1.3	U
4,4'-DDE		1.4	U	1.4	U	98	%	103	%	1.4	U	1.3	U
Dieldrin		1.4	U	1.4	U	101	%	105	%	1.4	U	1.3	U
Endrin		1.4	U	1.4	U	105	%	111	%	1.4	U	1.3	U
4,4'-DDD		1.4	U	1.4	U	88	%	94	%	1.4	U	1.3	U
Endosulfan II		1.4	U	1.4	U	99	%	103	%	1.4	U	1.3	U
4,4'-DDT		1.4	U	1.4	U	104	%	109	%	1.4	U	1.3	U
Endrin aldehyde		1.4	U	1.4	U	102	%	104	%	1.4	U	1.3	U
Endosulfan sulfate		1.4	U	1.4	U	96	%	101	%	1.4	U	1.3	U
Methoxychlor		1.4	U	1.4	U	110	%	118	%	1.4	U	1.3	U
Endrin ketone		1.4	U	1.4	U	102	%	108	%	1.4	U	1.3	U
Toxaphene		14	U	14	U	NS		NS		14	U	13	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000000005

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 03/24/08 14:06

RFW Batch Number: 0803L785 Client: TNU-HANFORD RC-032 Work Order: 11343606001 Page: 2

	Cust ID:	J16DV1		J16DV2		J16DV3		J16DV4		J16DV5		J16DV6	
Sample Information	RFW#:	006		007		008		009		010		011	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	4.00		4.00		4.00		4.00		4.00		4.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate:	Tetrachloro-m-xylene	103	%	102	%	104	%	104	%	111	%	97	%
	Decachlorobiphenyl	92	%	89	%	96	%	92	%	96	%	88	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
gamma-BHC (Lindane)		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Beta-BHC		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Heptachlor		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Delta-BHC		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Aldrin		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Heptachlor epoxide		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
gamma-Chlordane		1.4	U	1.4	U	1.4	U	2.2	J	1.4	U	1.4	U
Endosulfan I		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
alpha-Chlordane		1.4	U	1.4	U	1.4	U	2.1	J	1.4	U	1.4	U
4,4'-DDE		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Dieldrin		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Endrin		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
4,4'-DDD		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Endosulfan II		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
4,4'-DDT		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Endrin aldehyde		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Endosulfan sulfate		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Methoxychlor		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Endrin ketone		1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U
Toxaphene		14	U	14	U	14	U	14	U	14	U	14	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000000006

Lionville Laboratory, Inc.
Pesticide/PCBs by GC, CLP List
Report Date: 03/24/08 14:06

RFW Batch Number: 0803L785 Client: TNU-HANFORD RC-032 Work Order: 11343606001 Page: 3

	Cust ID:	J16DV7		PBLKOG		PBLKOG BS	
Sample Information	RFW#:	012		08LE0139-MB1		08LE0139-MB1	
	Matrix:	SOIL		SOIL		SOIL	
	D.F.:	4.00		1.00		1.00	
	Units:	UG/KG		UG/KG		UG/KG	
Surrogate: Tetrachloro-m-xylene		105	%	86	%	90	%
Decachlorobiphenyl		93	%	78	%	81	%
Alpha-BHC		1.4	U	0.33	U	109	%
gamma-BHC (Lindane)		1.4	U	0.33	U	109	%
Beta-BHC		1.4	U	0.33	U	105	%
Heptachlor		1.4	U	0.33	U	109	%
Delta-BHC		1.4	U	0.33	U	98	%
Aldrin		1.4	U	0.33	U	105	%
Heptachlor epoxide		1.4	U	0.33	U	107	%
gamma-Chlordane		1.4	U	0.33	U	105	%
Endosulfan I		1.4	U	0.33	U	106	%
alpha-Chlordane		1.4	U	0.33	U	103	%
4,4'-DDE		1.4	U	0.33	U	110	%
Dieldrin		1.4	U	0.33	U	111	%
Endrin		1.4	U	0.33	U	116	%
4,4'-DDD		1.4	U	0.33	U	100	%
Endosulfan II		1.4	U	0.33	U	108	%
4,4'-DDT		1.4	U	0.33	U	122	%
Endrin aldehyde		1.4	U	0.33	U	79	%
Endosulfan sulfate		1.4	U	0.33	U	106	%
Methoxychlor		1.4	U	0.33	U	116	%
Endrin ketone		1.4	U	0.33	U	110	%
Toxaphene		14	U	3.3	U	NS	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000000007

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 03/20/08 Extraction Batch No: 08LE0139 Analyst: MF Method: **** SOX3540

Test: O608 Cleanup Date: Analyst: Client: TNU-HANFORD RC-032

LIMS Report Date: 03/21/08 Solvent: DCM/ACETONE,HEXANE Adsorbent:

Sample No:	Client Name / Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0803L785-	TNU-HANFORD RC-032										
002 H	J16DT7		30.0	1.0		10		1.0	N	97.65	341.4
003 H	J16DT8		30.0	1.0		10		1.0	N	94.70	352.0
003 HS	J16DT8		30.0	1.0	1.0	10		1.0	N	94.70	352.0
003 HT	J16DT8		30.0	1.0	1.0	10		1.0	N	94.70	352.0
004 H	J16DT9		30.0	1.0		10		1.0	N	98.00	340.1
005 H	J16DV0		30.0	1.0		10		1.0	N	99.07	336.5
006 H	J16DV1		30.0	1.0		10		1.0	N	94.94	351.1
007 H	J16DV2		30.0	1.0		10		1.0	N	97.38	342.3
008 H	J16DV3		30.0	1.0		10		1.0	N	98.73	337.6
009 H	J16DV4		30.0	1.0		10		1.0	N	92.92	358.7
010 H	J16DV5		30.0	1.0		10		1.0	N	96.98	343.7
011 H	J16DV6		30.0	1.0		10		1.0	N	92.69	359.6
012 H	J16DV7		30.0	1.0		10		1.0	N	93.11	358.0
08LE0139-MB1 H	PBLKOG		30.0	1.0		10		1.0	N	100.00	333.3
08LE0139-MB1 HS	PBLKOG		30.0	1.0	1.0	10		1.0	N	100.00	333.3

Comments:
Surrogate: 250 UL OLM PSURR 89916405
Spike: 250 UL FULL LIST PEST SPIKE 89915509

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
all	[signature]	3/21/08 1308	SZ	3/21/08 13:10	GC

000000008

Lionville Laboratory Use Only

0803L785

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU Hanford RC-032

Est. Final Proj. Sampling Date:

Project#: 11343-606-0019999-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: O Johnson

PC: SWK646 Del: STD TAT: 30Dy

Date Rec'd: 3/20/08 Date Due: 3-23-08

		A	B		C		D	E	F	G						
Refrigerator #																
#/Type Container	Liquid / Solid	1gL	1gL		1gL		1gL	2pL	1pL							
Volume		120mL	120mL		60mL		120mL	125mL	125mL							
Preservatives																
ANALYSES REQUESTED		ORGANIC: VOA	BNA	Pest/PCB	Herb	PCB		INORG: Metal	CN							
		Lionville Laboratory Use Only														
			0625H	0605H		OPCB	TPHC	418.1 TPH	TCP Metals + Hg	Hexchrom	ICRG					

MATRIX CODES:
S- Soil
SE- Sediment
SO- Solid
SL- Sludge
W- Water
O- Oil
A- Air
DS- Drum Solids
DL- Drum Liquids
- EP/TCLP Leachate
WI- Wipe
O- Other
F- Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0625H	0605H		OPCB	TPHC	418.1 TPH	TCP Metals + Hg	Hexchrom	ICRG					
				S	3/18/08															
001	J16DT6			~~3/18/08~~	~~3/18/08~~	1140							X							
002	J16DT7			S		1145		X	X		X		X	X	X					
003	J16DT8			S		1150		X	X		X		X	X	X					
004	J16DT9			S		1155		X	X		X		X	X	X					
005	J16DV0			S		1200		X	X		X		X	X	X					
006	J16DV1			S		1205		X	X		X		X	X	X					
007	J16DV2			S		1210		X	X		X		X	X	X					
008	J16DV3			S		1215		X	X		X		X	X	X					
009	J16DV4			S		1220		X	X		X		X	X	X					
010	J16DV5			S	—	1225		X	X		X		X	X	X					

Special Instructions:

TCL met = HSL+B, Mo, Si
NOTL

Special Instructions:

1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Fedy	[signature]	3/18/08	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN			

COMPOSITE MASTER

0000000009

Lionville Laboratory Use Only

0803L785

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

Client: TNU Hanford

Est. Final Proj. Sampling Date: 9/1/08

Project#:

Project Contact/Phone#: 9/1

Lionville Laboratory Project Manager:

PO: Del: TAT: 3 DAY

Date Rec'd: 3/20/08 Date Due:

		A	B	C	D	E	F	G
Refrigerator #								
#/Type Container	Liquid / Solid							
Volume								
Preservatives								
ANALYSES REQUESTED		ORGANIC: VOA	ORGANIC: BNA	ORGANIC: Pest/PCB	ORGANIC: Herb			INORG: Metal / INORG: CN

MATRIX CODES: S- Soil; SE- Sediment; SO- Solid; SL- Sludge; W- Water; O- Oil; A- Air; DS- Drum Solids; DL- Drum Liquids; E- EP/TCLP Leachate; WI- Wipe; O- Other; F- Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only												
								0625H	0608H		PCB	ITPH	418.1	ICP Metals	Hexchrome	ICRG			
011	J16DV6			S	3/18/08	1230		X	X		X		X	X	X				
012	J16DV7			S	3/18/08	1230		X	X		X		X	X	X				

Special Instructions:

Special Instructions:

1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Fed Ex	[signature]	3/20/08	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000010

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 1 of 2

Collector T. Welch-Koelling	Company Contact JR DEBUIGNE	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code BA	Data Turnaround 3 Day
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No. RC-032		
Ice Chest No. AFS-06-004	Field Logbook No. EFL-1174-4	COA R120F12000	Method of Shipment FED EX	Temp 25°C	
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080200		Bill of Lading/Air Bill No. See OSPC 7904 7295 4470		

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
J16DT6 / SOIL / 3-18-05 / 1140	X										ED
J16DT7 / SOIL / ↓ / 1145	X	X	X	X	X	X					1
J16DT8 / SOIL / ↓ / 1150	X	X	X	X	X	X					2
J16DT9 / SOIL / ↓ / 1155	X	X	X	X	X	X					3
J16DV0 / SOIL / ↓ / 1200	X	X	X	X	X	X					4

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: [signature]	3/18/08 1320	Received By/Stored In: JR DeBuigne [signature]	1320 3-18-08
Relinquished By/Removed From: JR DeBuigne [signature]	3-18-08 1600	Received By/Stored In: [signature] MStankovich	1600 3/18/05
Relinquished By/Removed From: [signature] MStankovich	3/18/05 1000	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: Fed Ex	3.20.08 0970	Received By/Stored In: D. Smith	3.20.08
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

Cooler Temp 25°C

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By: [signature]	Title: LAB	Date/Time: 3/20/08
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

11000000

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 2 of 3

Collector: T. Welch-Koelling	Company Contact: JR DEBUIGNE	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8A	Data Turnaround: 3 DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No.: RC-032
Ice Chest No.: AFS-06-001	Field Logbook No.: EFL-1174-4	COA: R120F12000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080200		Bill of Lading/Air Bill No.: See OSPC 7984 0002 9318

Temp 3°C

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
J16DV1 / SOIL / 3-18-08 / 1205	X	X	X	X	X	X					5
J16DV2 / SOIL / 1210	X	X	X	X	X	X					6
J16DV3 / SOIL / 1215	X	X	X	X	X	X					7
J16DV4 / SOIL / 1220	X	X	X	X	X	X					8
J16DV5 / SOIL / 1225	X	X	X	X	X	X					9

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By/Removed From	Received By/Stored In	3/18/08 1320
Relinquished By/Removed From	Received By/Stored In	3-18-08 1600
Relinquished By/Removed From	Received By/Stored In	3/19/08 1500
Relinquished By/Removed From	Received By/Stored In	3.20.08 0940
Relinquished By/Removed From	Received By/Stored In	
Relinquished By/Removed From	Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Cooler Temp 2.0°C

Matrix *: S=Soil, SE=Sediment, SO=Solid, SL=Sludge, W=Water, O=Oil, A=Air, DS=Drum Solids, DL=Drum Liquids, T=Tissue, WI=Wipe, L=Liquid, V=Vegetation, X=Other

LABORATORY SECTION	Received By	Title: Lab Tech	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

000000012

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 2 of 2

Collector T. Welch-Koelling	Company Contact JR DEBUIGNE	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code 8A	Data Turnaround 3 DAY
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No. RC-032		
Ice Chest No. AFS-06-002	Field Logbook No. EFL-1174-4	COA R120F12000	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080200		Bill of Lading/Air Bill No. See OSPC 7910 2564 5757	2°C	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
J16DV6 / SOIL / 3-18-08 / 1230	X	X	X	X	X	X					10
J16DV7 / SOIL / 3-18-08 / 1230	X	X	X	X	X	X					10 D

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	3/18/08 1320	JRDeBuigne JRDeBuigne	3-18-08 1320
JRDeBuigne JRDeBuigne	3-18-08 1600	[signature] MSTankovich	3/18/08
[signature] MSTankovich	3/19/08 1500		Fed Ex
Fed Ex	3-20-08 0940	M. Mad	3-20-08 0940

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By [signature]	Title Lab Tech	Date/Time 3/20/08
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

000000813

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford

Date: 3.20.08

Project/SAF/SOW/Release #:

LvLI Batch #: 0803L785

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier: Fed Ex		Airbill # 7984 0002 9318 7904 7295 4470 7910 2504 5757
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 2.0 - 2.5 - 3.0 °C		Cooler # AFS-06-001
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify): AFS-06-004 AFS-06-003
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 _____ Date _____

LvLI LIONVILLE LABORATORY, INC.

SR-002-B.doc

RECEIVED
APR 2008

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # 0803L785

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16DT7	002	S	08LE0138	03/18/08	03/20/08	03/21/08
J16DT7	002 MS	S	08LE0138	03/18/08	03/20/08	03/22/08
J16DT7	002 MSD	S	08LE0138	03/18/08	03/20/08	03/22/08
J16DT8	003	S	08LE0138	03/18/08	03/20/08	03/22/08
J16DT9	004	S	08LE0138	03/18/08	03/20/08	03/23/08
J16DV0	005	S	08LE0138	03/18/08	03/20/08	03/23/08
J16DV1	006	S	08LE0138	03/18/08	03/20/08	03/23/08
J16DV2	007	S	08LE0138	03/18/08	03/20/08	03/23/08
J16DV3	008	S	08LE0138	03/18/08	03/20/08	03/23/08
J16DV4	009	S	08LE0138	03/18/08	03/20/08	03/23/08
J16DV5	010	S	08LE0138	03/18/08	03/20/08	03/23/08
J16DV6	011	S	08LE0138	03/18/08	03/20/08	03/23/08
J16DV7	012	S	08LE0138	03/18/08	03/20/08	03/23/08

LAB QC:

SBLKTL	MB1	S	08LE0138	N/A	03/20/08	03/21/08
SBLKTL	MB1 BS	S	08LE0138	N/A	03/20/08	03/21/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-032
LVL #: 0803L785
SDG/SAF # K1155 / RC-032

W.O. #: 11343-606-001-9999-00
Date Received: 03-20-2008

SEMIVOLATILE

Eleven (11) soil samples were collected on 03-18-2008.

The samples and their associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3540C on 03-20-2008 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 03-21,22,23-2008.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. Samples were extracted and analyzed within required holding time.

2. Non-target compounds were detected in the samples.

3. All surrogate recoveries were within acceptance criteria.

4. Six (6) of one hundred and twenty-eight (128) matrix spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

5. Six (6) of sixty-four (64) blank spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

6. The method blank was below the reporting limit for all target compounds.

7. All initial calibrations associated with this data set were within acceptance criteria.

8. All continuing calibrations standards analyzed prior to sample extracts were within acceptance criteria.

r:\group\data\2008\bna\mu\0803-785ks2.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at 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 31 pages.

LIONVILLE LABORATORY INC.

9. Internal standard area and retention time criteria were met.

10. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").

11. LvLI is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

12. 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 data package, has been authorized, by the Laboratory Manager or a designee, as verified by the following signature.

for Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

3/27/08
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 08MS046

Initiator: Sharon Saylor
Date: 3-26-08
Client: The BLOOR KIRSS

Batch: 0F03L785
Samples: msrid, 85
Method: (SW846)/MCAWW/CLP/

Parameter: 8270
Matrix: SOLID
Prep Batch: 0F1E013F

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C __ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract* __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample* __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note*: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (Include all relevant specific results; attach data if necessary)

low spike recoveries in the ms, msd, + 85

2. Known or Probable Causes(s)

3. Discussion and Proposed Action Other Description: narrate

__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

4. Project Manager Instructions...signature/date: 3/27/08
__ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
✓ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: KPS 3/27/08 Other Explanation:
__ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
__	X Initiator	__	__ Metals: Beegle
__	X Lab General Manager: ~~M. Taylor~~	__	__ Inorganic: Perrone
(1)	X Project Mgr: Stone/Johnson	(1)	X GC/LC: Kiger
__	__ Data Management: Stilwell	__	X MS: Rychlak/Daley
__	__ Sample Prep: Beegle/Kiger	__	__ Log-in: Perry
		__	__ Admin: _____
		__	__ Other: _____

QA-105-A-0805

GLOSSARY

DATA QUALIFIERS

U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.

J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.

E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

A = Indicates that a TIC is a suspected aldol-condensation product.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

MP - Missed Peak: manually added peak not found by automatic quan program.

PA - Peak Assignment: quan report was changed to reflect correct peak assignment.

RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.

SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.

CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.

PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 03/27/08 11:13

RFW Batch Number: 0803L785 Client: TNUHANFORD RC-032 K1155 Work Order: 11343606001 Page: 1a

	Cust ID:	J16DT7	J16DT7	J16DT7	J16DT8	J16DT9	J16DV0
Sample Information	RFW#:	002	002 MS	002 MSD	003	004	005
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	63 %	50 %	56 %	56 %	68 %	57 %
	2-Fluorobiphenyl	72 %	76 %	92 %	74 %	69 %	67 %
	Terphenyl-d14	86 %	84 %	100 %	94 %	77 %	81 %
	Phenol-d5	60 %	64 %	71 %	56 %	65 %	69 %
	2-Fluorophenol	63 %	61 %	68 %	55 %	68 %	66 %
	2,4,6-Tribromophenol	29 %	31 %	37 %	36 %	30 %	53 %
		fl	fl	fl	fl	fl	fl
Phenol		340 U	65 %	72 %	350 U	340 U	340 U
bis(2-Chloroethyl)ether		340 U	57 %	61 %	350 U	340 U	340 U
2-Chlorophenol		340 U	66 %	76 %	350 U	340 U	340 U
1,3-Dichlorobenzene		340 U	58 %	69 %	350 U	340 U	340 U
1,4-Dichlorobenzene		340 U	58 %	69 %	350 U	340 U	340 U
1,2-Dichlorobenzene		340 U	62 %	70 %	350 U	340 U	340 U
2-Methylphenol		340 U	70 %	79 %	350 U	340 U	340 U
2,2'-oxybis(1-Chloropropane)		340 U	58 %	64 %	350 U	340 U	340 U
3/4 Methylphenol		340 U	72 %	78 %	350 U	340 U	340 U
N-Nitroso-di-n-propylamine		340 U	62 %	68 %	350 U	340 U	340 U
Hexachloroethane		340 U	56 %	64 %	350 U	340 U	340 U
Nitrobenzene		340 U	47 * %	53 %	350 U	340 U	340 U
Isophorone		340 U	56 * %	63 %	350 U	340 U	340 U
2-Nitrophenol		340 U	54 %	62 %	350 U	340 U	340 U
2,4-Dimethylphenol		340 U	53 %	57 %	350 U	340 U	340 U
bis(2-Chloroethoxy)methane		340 U	51 %	57 %	350 U	340 U	340 U
2,4-Dichlorophenol		340 U	54 %	65 %	350 U	340 U	340 U
1,2,4-Trichlorobenzene		340 U	51 * %	63 %	350 U	340 U	340 U
Naphthalene		340 U	52 %	60 %	350 U	340 U	340 U
4-Chloroaniline		340 U	42 %	47 %	350 U	340 U	340 U
Hexachlorobutadiene		340 U	59 %	68 %	350 U	340 U	340 U
4-Chloro-3-methylphenol		340 U	55 * %	58 * %	350 U	340 U	340 U
2-Methylnaphthalene		340 U	57 * %	64 %	350 U	340 U	340 U
Hexachlorocyclopentadiene		340 U	66 %	78 %	350 U	340 U	340 U
2,4,6-Trichlorophenol		340 U	41 %	51 %	350 U	340 U	340 U
2,4,5-Trichlorophenol		850 U	64 %	87 %	880 U	850 U	840 U

*= Outside of EPA CLP QC limits.

000000008

RFW Batch Number: 0803L785 Client: TNUHANFORD RC-032 K1155 Work Order: 11343606001 Page: 1b

Cust ID:	J16DT7		J16DT7		J16DT7		J16DT8		J16DT9		J16DV0	
RFW#:	002		002 MS		002 MSD		003		004		005	
2-Chloronaphthalene	340	U	71	%	89	%	350	U	340	U	340	U
2-Nitroaniline	850	U	71	%	86	%	880	U	850	U	840	U
Dimethylphthalate	340	U	76	%	92	%	350	U	340	U	340	U
Acenaphthylene	340	U	75	%	90	%	350	U	340	U	340	U
2,6-Dinitrotoluene	340	U	77	%	96	%	350	U	340	U	340	U
3-Nitroaniline	850	U	75	%	92	%	880	U	850	U	840	U
Acenaphthene	340	U	72	%	87	%	350	U	340	U	340	U
2,4-Dinitrophenol	850	U	36	%	37	%	880	U	850	U	840	U
4-Nitrophenol	850	U	78	%	95	%	880	U	850	U	840	U
Dibenzofuran	340	U	76	%	96	%	350	U	340	U	340	U
2,4-Dinitrotoluene	340	U	86	%	106	%	350	U	340	U	340	U
Diethylphthalate	340	U	77	%	94	%	350	U	340	U	340	U
4-Chlorophenyl-phenylether	340	U	74	%	93	%	350	U	340	U	340	U
Fluorene	340	U	76	%	93	%	350	U	340	U	340	U
4-Nitroaniline	850	U	74	%	94	%	880	U	850	U	840	U
4,6-Dinitro-2-methylphenol	850	U	53	%	52	%	880	U	850	U	840	U
N-Nitrosodiphenylamine (1)	340	U	61	%	73	%	350	U	340	U	340	U
4-Bromophenyl-phenylether	340	U	64	%	83	%	350	U	340	U	340	U
Hexachlorobenzene	340	U	80	%	108	%	350	U	340	U	340	U
Pentachlorophenol	850	U	56	%	65	%	880	U	850	U	840	U
Phenanthrene	340	U	74	%	92	%	350	U	340	U	340	U
Anthracene	340	U	76	%	97	%	350	U	340	U	340	U
Carbazole	340	U	80	%	100	%	350	U	340	U	340	U
Di-n-butylphthalate	340	U	80	%	97	%	19	J	27	J	25	J
Fluoranthene	340	U	88	%	110	%	350	U	340	U	340	U
Pyrene	340	U	72	%	92	%	350	U	340	U	340	U
Butylbenzylphthalate	340	U	80	%	83	%	350	U	340	U	340	U
3,3'-Dichlorobenzidine	340	U	66	%	78	%	350	U	340	U	340	U
Benzo(a)anthracene	340	U	80	%	96	%	350	U	340	U	340	U
Chrysene	340	U	83	%	91	%	350	U	340	U	340	U
bis(2-Ethylhexyl)phthalate	25	JB	79	%	85	%	100	JB	84	JB	72	JB
Di-n-octyl phthalate	340	U	66	%	81	%	350	U	340	U	340	U
Benzo(b)fluoranthene	340	U	72	%	87	%	350	U	340	U	340	U
Benzo(k)fluoranthene	340	U	71	%	96	%	350	U	340	U	340	U
Benzo(a)pyrene	340	U	72	%	86	%	350	U	340	U	340	U
Indeno(1,2,3-cd)pyrene	340	U	71	%	91	%	350	U	340	U	340	U
Dibenz(a,h)anthracene	340	U	70	%	88	%	350	U	340	U	340	U
Benzo(g,h,i)perylene	340	U	64	%	83	%	350	U	340	U	340	U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

000000009

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 03/27/08 11:13

RFW Batch Number: 0803L785 Client: TNUHANFORD RC-032 K1155 Work Order: 11343606001 Page: 2a

010000000

	Cust ID:	J16DV1	J16DV2	J16DV3	J16DV4	J16DV5	J16DV6
Sample Information	RFW#:	006	007	008	009	010	011
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	58 %	62 %	66 %	58 %	69 %	58 %
	2-Fluorobiphenyl	63 %	63 %	71 %	62 %	70 %	62 %
	Terphenyl-d14	83 %	77 %	77 %	71 %	80 %	75 %
	Phenol-d5	60 %	67 %	66 %	71 %	74 %	60 %
	2-Fluorophenol	63 %	64 %	67 %	66 %	75 %	58 %
	2,4,6-Tribromophenol	32 %	55 %	33 %	60 %	44 %	48 %
		fl	fl	fl	fl	fl	fl
Phenol		350 U	340 U	340 U	360 U	340 U	360 U
bis(2-Chloroethyl)ether		350 U	340 U	340 U	360 U	340 U	360 U
2-Chlorophenol		350 U	340 U	340 U	360 U	340 U	360 U
1,3-Dichlorobenzene		350 U	340 U	340 U	360 U	340 U	360 U
1,4-Dichlorobenzene		350 U	340 U	340 U	360 U	340 U	360 U
1,2-Dichlorobenzene		350 U	340 U	340 U	360 U	340 U	360 U
2-Methylphenol		350 U	340 U	340 U	360 U	340 U	360 U
2,2'-oxybis(1-Chloropropane)		350 U	340 U	340 U	360 U	340 U	360 U
3/4 Methylphenol		350 U	340 U	340 U	360 U	340 U	360 U
N-Nitroso-di-n-propylamine		350 U	340 U	340 U	360 U	340 U	360 U
Hexachloroethane		350 U	340 U	340 U	360 U	340 U	360 U
Nitrobenzene		350 U	340 U	340 U	360 U	340 U	360 U
Isophorone		350 U	340 U	340 U	360 U	340 U	360 U
2-Nitrophenol		350 U	340 U	340 U	360 U	340 U	360 U
2,4-Dimethylphenol		350 U	340 U	340 U	360 U	340 U	360 U
bis(2-Chloroethoxy)methane		350 U	340 U	340 U	360 U	340 U	360 U
2,4-Dichlorophenol		350 U	340 U	340 U	360 U	340 U	360 U
1,2,4-Trichlorobenzene		350 U	340 U	340 U	360 U	340 U	360 U
Naphthalene		350 U	340 U	340 U	360 U	340 U	360 U
4-Chloroaniline		350 U	340 U	340 U	360 U	340 U	360 U
Hexachlorobutadiene		350 U	340 U	340 U	360 U	340 U	360 U
4-Chloro-3-methylphenol		350 U	340 U	340 U	360 U	340 U	360 U
2-Methylnaphthalene		350 U	340 U	340 U	360 U	340 U	360 U
Hexachlorocyclopentadiene		350 U	340 U	340 U	360 U	340 U	360 U
2,4,6-Trichlorophenol		350 U	340 U	340 U	360 U	340 U	360 U
2,4,5-Trichlorophenol		880 U	860 U	840 U	900 U	860 U	900 U

*= Outside of EPA CLP QC limits.

Cust ID:	J16DV1		J16DV2		J16DV3		J16DV4		J16DV5		J16DV6	
RFW#:	006		007		008		009		010		011	
2-Chloronaphthalene	350	U	340	U	340	U	360	U	340	U	360	U
2-Nitroaniline	880	U	860	U	840	U	900	U	860	U	900	U
Dimethylphthalate	350	U	340	U	340	U	360	U	340	U	360	U
Acenaphthylene	350	U	340	U	340	U	360	U	340	U	360	U
2,6-Dinitrotoluene	350	U	340	U	340	U	360	U	340	U	360	U
3-Nitroaniline	880	U	860	U	840	U	900	U	860	U	900	U
Acenaphthene	350	U	340	U	340	U	360	U	340	U	360	U
2,4-Dinitrophenol	880	U	860	U	840	U	900	U	860	U	900	U
4-Nitrophenol	880	U	860	U	840	U	900	U	860	U	900	U
Dibenzofuran	350	U	340	U	340	U	360	U	340	U	360	U
2,4-Dinitrotoluene	350	U	340	U	340	U	360	U	340	U	360	U
Diethylphthalate	350	U	340	U	340	U	360	U	340	U	360	U
4-Chlorophenyl-phenylether	350	U	340	U	340	U	360	U	340	U	360	U
Fluorene	350	U	340	U	340	U	360	U	340	U	360	U
4-Nitroaniline	880	U	860	U	840	U	900	U	860	U	900	U
4,6-Dinitro-2-methylphenol	880	U	860	U	840	U	900	U	860	U	900	U
N-Nitrosodiphenylamine (1)	350	U	340	U	340	U	360	U	340	U	360	U
4-Bromophenyl-phenylether	350	U	340	U	340	U	360	U	340	U	360	U
Hexachlorobenzene	350	U	340	U	340	U	360	U	340	U	360	U
Pentachlorophenol	880	U	860	U	840	U	900	U	860	U	900	U
Phenanthrene	350	U	340	U	340	U	360	U	340	U	360	U
Anthracene	350	U	340	U	340	U	360	U	340	U	360	U
Carbazole	350	U	340	U	340	U	360	U	340	U	360	U
Di-n-butylphthalate	350	U	340	U	340	U	360	U	340	U	360	U
Fluoranthene	350	U	340	U	340	U	360	U	340	U	360	U
Pyrene	350	U	340	U	340	U	360	U	340	U	360	U
Butylbenzylphthalate	350	U	340	U	340	U	360	U	340	U	360	U
3,3'-Dichlorobenzidine	350	U	340	U	340	U	360	U	340	U	360	U
Benzo(a)anthracene	350	U	340	U	340	U	360	U	340	U	360	U
Chrysene	350	U	340	U	340	U	360	U	340	U	360	U
bis(2-Ethylhexyl)phthalate	31	JB	23	JB	340	U	65	JB	29	JB	18	JB
Di-n-octyl phthalate	350	U	340	U	340	U	360	U	340	U	360	U
Benzo(b)fluoranthene	350	U	340	U	340	U	360	U	340	U	360	U
Benzo(k)fluoranthene	350	U	340	U	340	U	360	U	340	U	360	U
Benzo(a)pyrene	350	U	340	U	340	U	360	U	340	U	360	U
Indeno(1,2,3-cd)pyrene	350	U	340	U	340	U	360	U	340	U	360	U
Dibenz(a,h)anthracene	350	U	340	U	340	U	360	U	340	U	360	U
Benzo(g,h,i)perylene	350	U	340	U	340	U	360	U	340	U	360	U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 03/27/08 11:13

RFW Batch Number: 0803L785 Client: TNUHANFORD RC-032 K1155 Work Order: 11343606001 Page: 3a

000000012

	Cust ID:	J16DV7	SBLKTL	SBLKTL BS
Sample Information	RFW#:	012	08LE0138-MB1	08LE0138-MB1
	Matrix:	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	64 %	76 %	56 %
	2-Fluorobiphenyl	68 %	83 %	85 %
	Terphenyl-d14	84 %	111 %	94 %
	Phenol-d5	71 %	68 %	70 %
	2-Fluorophenol	71 %	71 %	66 %
	2,4,6-Tribromophenol	46 %	19 %	41 %
Phenol		360 U	330 U	70 %
bis(2-Chloroethyl)ether		360 U	330 U	62 %
2-Chlorophenol		360 U	330 U	72 %
1,3-Dichlorobenzene		360 U	330 U	67 %
1,4-Dichlorobenzene		360 U	330 U	66 %
1,2-Dichlorobenzene		360 U	330 U	69 %
2-Methylphenol		360 U	330 U	74 %
2,2'-oxybis(1-Chloropropane)		360 U	330 U	63 %
3/4 Methylphenol		360 U	330 U	75 %
N-Nitroso-di-n-propylamine		360 U	330 U	65 %
Hexachloroethane		360 U	330 U	61 %
Nitrobenzene		360 U	330 U	51 %
Isophorone		360 U	330 U	59 * %
2-Nitrophenol		360 U	330 U	59 %
2,4-Dimethylphenol		360 U	330 U	55 %
bis(2-Chloroethoxy)methane		360 U	330 U	53 %
2,4-Dichlorophenol		360 U	330 U	59 %
1,2,4-Trichlorobenzene		360 U	330 U	57 * %
Naphthalene		360 U	330 U	56 %
4-Chloroaniline		360 U	330 U	52 %
Hexachlorobutadiene		360 U	330 U	65 %
4-Chloro-3-methylphenol		360 U	330 U	56 * %
2-Methylnaphthalene		360 U	330 U	58 * %
Hexachlorocyclopentadiene		360 U	330 U	70 %
2,4,6-Trichlorophenol		360 U	330 U	53 %
2,4,5-Trichlorophenol		900 U	830 U	72 %

*= Outside of EPA CLP QC limits.

Cust ID:	J16DV7		SBLKTL		SBLKTL BS	
RFW#:	012		08LE0138-MB1		08LE0138-MB1	
2-Chloronaphthalene	360	U	330	U	77	%
2-Nitroaniline	900	U	830	U	80	%
Dimethylphthalate	360	U	330	U	82	%
Acenaphthylene	360	U	330	U	78	%
2,6-Dinitrotoluene	360	U	330	U	81	%
3-Nitroaniline	900	U	830	U	86	%
Acenaphthene	360	U	330	U	76	%
2,4-Dinitrophenol	900	U	830	U	16 *	%
4-Nitrophenol	900	U	830	U	74	%
Dibenzofuran	360	U	330	U	79	%
2,4-Dinitrotoluene	360	U	330	U	86	%
Diethylphthalate	360	U	330	U	70	%
4-Chlorophenyl-phenylether	360	U	330	U	79	%
Fluorene	360	U	330	U	80	%
4-Nitroaniline	900	U	830	U	85	%
4,6-Dinitro-2-methylphenol	900	U	830	U	28 *	%
N-Nitrosodiphenylamine (1)	360	U	330	U	68	%
4-Bromophenyl-phenylether	360	U	330	U	64	%
Hexachlorobenzene	360	U	330	U	104	%
Pentachlorophenol	900	U	830	U	42	%
Phenanthrene	360	U	330	U	86	%
Anthracene	360	U	330	U	98	%
Carbazole	360	U	330	U	92	%
Di-n-butylphthalate	360	U	330	U	98	%
Fluoranthene	360	U	330	U	107	%
Pyrene	360	U	330	U	61	%
Butylbenzylphthalate	360	U	330	U	81	%
3,3'-Dichlorobenzidine	360	U	330	U	73	%
Benzo(a)anthracene	360	U	330	U	80	%
Chrysene	360	U	330	U	76	%
bis(2-Ethylhexyl)phthalate	29	JB	59	J	74	%
Di-n-octyl phthalate	360	U	330	U	74	%
Benzo(b)fluoranthene	360	U	330	U	79	%
Benzo(k)fluoranthene	360	U	330	U	69	%
Benzo(a)pyrene	360	U	330	U	72	%
Indeno(1,2,3-cd)pyrene	360	U	330	U	76	%
Dibenz(a,h)anthracene	360	U	330	U	72	%
Benzo(g,h,i)perylene	360	U	330	U	70	%

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

000000013

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16DT7

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 0803L785-002

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032114

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: 2 decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/21/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.628	200	J
2.	UNKNOWN	5.596	50000	JB
3.	UNKNOWN	19.794	600	JB
4.	UNKNOWN	25.686	100	J
5.	ALKANE	26.113	70	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16DT8

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 0803L785-003

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032117

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: 5 decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/22/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.635	100	J
2.	UNKNOWN	5.551	20000	JB
3.	UNKNOWN	19.801	800	JB
4.	ALKANE	24.412	80	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16DT9

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 0803L785-004

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032209

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: 2 decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/23/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.540	200	J
2.	ALDOL CONDENSATE	4.924	90	JAB
3.	UNKNOWN	5.481	40000	JB
4.	UNKNOWN	19.679	800	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16DV0

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 0803L785-005

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032210

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/23/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.536	200	J
2.	ALDOL CONDENSATE	4.954	70	JAB
3.	UNKNOWN	5.521	70000	JB
4.	UNKNOWN	19.675	100	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16DV1

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 0803L785-006

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032211

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: 5 decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/23/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.536	100	J
2.	UNKNOWN	5.443	30000	JB
3.	UNKNOWN	19.676	800	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16DV2

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 0803L785-007

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032212

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: 3 decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/23/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.545	200	J
2.	UNKNOWN	5.469	40000	JB
3.	UNKNOWN	19.676	200	JB
4.	ALKANE	24.260	90	J
5.	ALKANE	25.916	100	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16DV3

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 0803L785-008

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032213

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: 1 decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/23/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.546	200	J
2.	ALDOL CONDENSATE	4.930	100	JAB
3.	UNKNOWN	5.487	50000	JB
4.	UNKNOWN	19.677	700	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16DV4

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 0803L785-009

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032214

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: 7 decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/23/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.546	200	J
2.	UNKNOWN	5.461	40000	JB
3.	UNKNOWN	19.676	90	JB
4.	UNKNOWN	21.280	200	J
5.	UNKNOWN	22.710	100	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16DV5

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 0803L785-010

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032215

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: 3 decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/23/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.547	200	J
2.	ALDOL CONDENSATE	4.930	100	JAB
3.	UNKNOWN	5.488	40000	JB
4.	UNKNOWN	19.677	200	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16DV6

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 0803L785-011

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032216

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: 7 decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/23/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	4.954	1000	JA
2.	ALDOL CONDENSATE	5.050	2000	JAB
3.	UNKNOWN	5.521	80000	JB
4.	UNKNOWN	5.608	80000	J
5.	ALDOL CONDENSATE	6.767	500	JA

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16DV7

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 0803L785-012

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032217

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: 7 decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/23/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	4.954	900	JAB
2.	UNKNOWN	5.076	2000	J
3.	UNKNOWN	5.521	70000	J
4.	UNKNOWN	5.625	90000	JB
5.	UNKNOWN	5.652	30000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKTL

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD RC-032 K1155

Matrix: (soil/water) SOIL

Lab Sample ID: 08LE0138-MB1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N032113

Level: (low/med) LOW

Date Received: 03/20/08

% Moisture: _____ decanted: (Y/N)__

Date Extracted: 03/20/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/21/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.287	2000	JA
2.	UNKNOWN	5.697	100000	J
3.	UNKNOWN	5.749	50000	J
4.	UNKNOWN	5.802	30000	J
5.	UNKNOWN	19.799	1000	J

onville Laboratory Use Only
08031785

Custody Transfer Record/Lab Work Request

Page 1 of 2

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

ent TNU Hanford RC-032
. Final Proj. Sampling Date
ject# 11343-606-0019999-00
ject Contact/Phone#
nville Laboratory Project Manager O Johnson
SW846 Del STO TAT 3DAY
te Rec'd 3/20/08 Date Due 3-23-08

		A	B	C	D	E	F	G
Refrigerator #								
#/Type Container	Liquid / Solid	1gL	1gL	1gL	1gL	2PL	1PL	
Volume		120mL	120mL	60mL	120mL	120mL	125mL	
Preservatives								
ANALYSES REQUESTED	ORGANIC: VOA	BNA	Pest/PCB	Herb	PCB		INORG: Metal	CN
Lionville Laboratory Use Only		06025H	06085H		0PCB	TPHC	418.1/TPH	Icp Metals + Hg	Hexchrom	ICRY

MATRIX CODES: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP Leachate, Wipe, Other, Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	06025H	06085H		0PCB	TPHC	418.1/TPH	Icp Metals + Hg	Hexchrom	ICRY
					S	3/18/08										
	001	J16DT6			~~3/18/08~~	3/18/08	1140							X		
	002	J16DT7			S		1145		X	X	X		X	X	X	
	003	J16DT8			S		1150		X	X	X		X	X	X	
	004	J16DT9			S		1155		X	X	X		X	X	X	
	005	J16DV0			S		1200		X	X	X		X	X	X	
	006	J16DV1			S		1205		X	X	X		X	X	X	
	007	J16DV2			S		1210		X	X	X		X	X	X	
	008	J16DV3			S		1215		X	X	X		X	X	X	
	009	J16DV4			S		1220		X	X	X		X	X	X	
	010	J16DV5			S		1225		X	X	X		X	X	X	

Special Instructions:

TCL met = HSL+B, Mo, Si
NOTL

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

Relinquished by	Received by	Date	Time
Fedx	[signature]	3/18/08	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

0000000026

nville Laboratory Use Only
803L785

Custody Transfer Record/Lab Work Request

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

nt: TNU HANFORD
Final Proj. Sampling Date: 9/11/9
ect#:
ect Contact/Phone#: G
nville Laboratory Project Manager:
Del: TAT: 3 DAY
Rec'd: 3/20/08 Date Due:

Refrigerator #			A	B	C		D	E	F G								
#/Type Container	Liquid / Solid																
Volume																	
Preservatives																	
ANALYSES REQUESTED →			ORGANIC							INORG							
			VOA	BNA	Pest/PCB	Herb				Metal	CN						
										Llanville Laboratory Use Only							
				0625H	0608H		PCB	TPH	418.1	ICP METALS	HACH	ICR6					

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected		0625H	0608H		PCB	TPH	418.1	ICP METALS	HACH	ICR6
011	J16DV6			S	3/18/08	1230		X	X		X		X	X	X	
012	J16DV7			S	3/18/08	1230		X	X		X		X	X	X	

Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP, Leachate, Wipe, Other, Fish

cial Instructions:

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

Relinquished by	Received by	Date	Time
Fed Ex	[signature]	3/20/08	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000027

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 1 of 1

ollector T. Welch-Koelling	Company Contact JR DEBUIGNE	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code 8A	Data Turnaround 3 DAY
roject Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No. RC-032		
ce Chest No. AFS-06-004	Field Logbook No. EFL-1174-4	COA R120F12000	Method of Shipment FED EX	Temp 25°C	
hipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080200		Bill of Lading/Air Bill No. See OSPC Hdq 970 7904 7295 4470		

POSSIBLE SAMPLE HAZARDS/REMARKS
NA

Special Handling and/or Storage
NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
16DT6 / SOIL / 3-18-08 / 1140	X										ED
16DT7 / SOIL / ↓ / 1145	X	X	X	X	X	X					1
16DT8 / SOIL / ↓ / 1150	X	X	X	X	X	X					2
16DT9 / SOIL / ↓ / 1155	X	X	X	X	X	X					3
16DV0 / SOIL / ↓ / 1200	X	X	X	X	X	X					4

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From	Date/Time 3/18/08 1320	Received By/Stored In / Date/Time 1320 JR DeBuigne 3-18-08
Relinquished By/Removed From	Date/Time 1600 3-18-08	Received By/Stored In / Date/Time 1600 MSkankovich 3/18/05
Relinquished By/Removed From	Date/Time 1000 MSkankovich 3/18/05	Received By/Stored In / Date/Time Fed Ex
Relinquished By/Removed From Fed Ex	Date/Time 3-20-08 0970	Received By/Stored In / Date/Time 3-20-08
Relinquished By/Removed From	Date/Time	Received By/Stored In / Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In / Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Cooler Temp 2.5°C

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time 3/20/08
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

000000028

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 2 of 1

Collector: T. Welch-Koelling	Company Contact: JR DEBUIGNE	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 120-F-1 Glass Dump Verification phase 2 (NW Excavation)	SAF No.: RC-032	Price Code: 8A
Data Turnaround: 3 DAY			
Ice Chest No.: AFS-06-001	Field Logbook No.: EFL-1174-4	COA: R120F12000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / KIONVILLE	Offsite Property No.: A080200	Bill of Lading/Air Bill No.: See OSPC 7984 ac29318	Temp 3°C

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
16DV1	SOIL	3-18-08	1205	X	X	X	X	X	X		5
16DV2	SOIL		1210	X	X	X	X	X	X		6
16DV3	SOIL		1215	X	X	X	X	X	X		7
16DV4	SOIL		1220	X	X	X	X	X	X		8
16DV5	SOIL		1225	X	X	X	X	X	X		9

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	[signature]	3/18/08 1320	JR DeBuigne JR DeBuigne	3-18-08 1320
Relinquished By/Removed From	R DeBuigne RDB	3-18-08 1600	[signature] M Stankovich	3/18/08 1600
Relinquished By/Removed From	[signature] M Stankovich	3/19/08 1500	Fed Ex	
Relinquished By/Removed From	Fed Ex	3 20 08 0940	[signature]	3 20 08 0940
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Cooler Temp 2.0°C

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
	[signature]	Lab Tech	
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

000000029

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 1 of 1
Collector: T. Welch-Koelling	Company Contact: JR DEBUIGNE; Telephone No.: 528-6409	Project Coordinator: KESSNER, JH	Price Code: 8A; Data Turnaround: 3 DAY
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 120-F-1 Glass Dump Verification phase 2 (NW Excavation)	SAF No.: RC-032	
Ice Chest No.: AFS-06-002	Field Logbook No.: EFL-1174-4; COA: R120F12000	Method of Shipment: FED EX	
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080200	Bill of Lading/Air Bill No. See OSPC: 7910250457 57	2°C

POSSIBLE SAMPLE HAZARDS/REMARKS
NA

Special Handling and/or Storage
NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
16DV6 / SOIL / 3-18-08 / 1230	X	X	X	X	X	X					10
16DV7 / SOIL / 3-18-08 / 1230	X	X	X	X	X	X					10 D

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 3/18/08 1320	Received By/Stored In	Date/Time 1320
Relinquished By/Removed From	Date/Time 1600 3-18-08	Received By/Stored In: MSTANKOVICH	Date/Time 3/18/08 1800
Relinquished By/Removed From: MSTANKOVICH	Date/Time 1500 3/19/08	Received By/Stored In	Date/Time Fed Ex
Relinquished By/Removed From: Fed Ex	Date/Time 3-20-08 0940	Received By/Stored In	Date/Time 3-20-08 0940
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title: Lab Tech	Date/Time: 3/20/08
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

000000030

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford **Date:** 3.20.08

Project/SAF/SOW/Release #:

LvLI Batch #: 0803L785 **Sample Custodian:** [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier (Fed) Ex		Airbill # 7984 0002 9318 7904 7295 4470 7910 2504 5757
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 plastic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 2.0 °C, 2.5 °C, 3.0 °C		Cooler # AFS-06-001
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify): AFS-06-004 AFS-06-002
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 _____ Date _____

LvLI LIONVILLE LABORATORY INC.

SR-002-B.doc

Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032 K1155

RECEIVED
APR 2008

DATE RECEIVED: 03/20/08 LVL LOT # :08031785

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16DT7	002	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DT8	003	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DT8	003 MS	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DT8	003 MSD	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DT9	004	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV0	005	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV1	006	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV2	007	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV3	008	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV4	009	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV5	010	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV6	011	S	08LE0139	03/18/08	03/20/08	03/21/08
J16DV7	012	S	08LE0139	03/18/08	03/20/08	03/21/08

LAB QC:

PBLKOG	MB1	S	08LE0139	N/A	03/20/08	03/21/08
PBLKOG	MB1 BS	S	08LE0139	N/A	03/20/08	03/21/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-032
LVL #: 0803L785
SDG/SAF # K1155 / RC-032

W.O. #: 11343-606-001-9999-00
Date Received: 03-20-2008

PCB

Eleven (11) soil samples were collected on 03-18-2008.

The samples and their associated QC samples were extracted on 03-20-2008 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 03-21-2008. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8082.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of the QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. Samples were extracted and analyzed within required holding time
2. The samples and their associated QC samples received Copper-Sulfur and Sulfuric Acid cleanups according to Lionville Laboratory SOPs based on SW846 methods 3660A and 3665A respectively.
3. The method blank was below the reporting limits for all target compounds.
4. All surrogate recoveries were within acceptance criteria.
5. All blank spike recoveries were within acceptance criteria.
6. All matrix spike recoveries were within acceptance criteria.
7. The initial calibrations associated with this data set were within acceptance criteria.
8. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

lc:\group\data\pest\tnu\0803-785la2.pcb.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at 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 13 pages.

LIONVILLE LABORATORY INC.

9. LvLI is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

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 data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

3/27/08
Date

208 Welsh Pool Road • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
B	=	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
.I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
P	=	This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.
NPM	=	No pattern match for multi-component target analytes.

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 03/24/08 14:17

RFW Batch Number: 0803L785 Client: TNU-HANFORD RC-032 Work Order: 11343606001 Page: 1

000000005

	Cust ID:	J16DT7	J16DT8	J16DT8	J16DT8	J16DT9	J16DV0
Sample Information	RFW#:	002	003	003 MS	003 MSD	004	005
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	93 %	97 %	82 %	98 %	97 %	93 %
	Decachlorobiphenyl	102 %	111 %	96 %	114 %	111 %	96 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		14 U	14 U	78 %	91 %	14 U	13 U
Aroclor-1221		14 U	14 U	14 U	14 U	14 U	13 U
Aroclor-1232		14 U	14 U	14 U	14 U	14 U	13 U
Aroclor-1242		14 U	14 U	14 U	14 U	14 U	13 U
Aroclor-1248		14 U	14 U	14 U	14 U	14 U	13 U
Aroclor-1254		14 U	14 U	14 U	14 U	14 U	13 U
Aroclor-1260		14 U	14 U	82 %	94 %	14 U	13 U

	Cust ID:	J16DV1	J16DV2	J16DV3	J16DV4	J16DV5	J16DV6
Sample Information	RFW#:	006	007	008	009	010	011
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	97 %	94 %	92 %	95 %	99 %	92 %
	Decachlorobiphenyl	101 %	92 %	108 %	109 %	107 %	104 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		14 U	14 U	14 U	14 U	14 U	14 U
Aroclor-1221		14 U	14 U	14 U	14 U	14 U	14 U
Aroclor-1232		14 U	14 U	14 U	14 U	14 U	14 U
Aroclor-1242		14 U	14 U	14 U	14 U	14 U	14 U
Aroclor-1248		14 U	14 U	14 U	14 U	14 U	14 U
Aroclor-1254		14 U	14 U	14 U	14 U	14 U	14 U
Aroclor-1260		14 U	14 U	14 U	14 U	14 U	14 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 03/24/08 14:17

RFW Batch Number: 0803L785 Client: TNU-HANFORD RC-032 Work Order: 11343606001 Page: 2

	Cust ID:	J16DV7	PBLKOG	PBLKOG BS
Sample Information	RFW#:	012	08LE0139-MB1	08LE0139-MB1
	Matrix:	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG
Surrogate: Tetrachloro-m-xylene		95 %	93 %	96 %
Decachlorobiphenyl		103 %	108 %	109 %
Aroclor-1016		14 U	13 U	82 %
Aroclor-1221		14 U	13 U	13 U
Aroclor-1232		14 U	13 U	13 U
Aroclor-1242		14 U	13 U	13 U
Aroclor-1248		14 U	13 U	13 U
Aroclor-1254		14 U	13 U	13 U
Aroclor-1260		14 U	13 U	89 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

0000000006

Lionville Laboratory, Inc.

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 03/20/08 Extraction Batch No: 08LE0139 Analyst: MF Method: **** SOXSJ40

Test: OPCB Cleanup Date: 03/21/08 Analyst: MF Client: TNU-HANFORD RC-032

LIMS Report Date: 03/21/08 Solvent: DCM/ACETONE,HEXANE Adsorbent: H2SO4

Sample No:	Client Name Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0803L785-	TNU-HANFORD RC-032										
002	J16DT7		30.0	1.0		10		1.0	N	97.65	341.4
003	J16DT8		30.0	1.0		10		1.0	N	94.70	352.0
003 -S	J16DT8		30.0	1.0	1.0	10		1.0	N	94.70	352.0
003 -T	J16DT8		30.0	1.0	1.0	10		1.0	N	94.70	352.0
004	J16DT9		30.0	1.0		10		1.0	N	98.00	340.1
005	J16DV0		30.0	1.0		10		1.0	N	99.07	336.5
006	J16DV1		30.0	1.0		10		1.0	N	94.94	351.1
007	J16DV2		30.0	1.0		10		1.0	N	97.38	342.3
008	J16DV3		30.0	1.0		10		1.0	N	98.73	337.6
009	J16DV4		30.0	1.0		10		1.0	N	92.92	358.7
010	J16DV5		30.0	1.0		10		1.0	N	96.98	343.7
011	J16DV6		30.0	1.0		10		1.0	N	92.69	359.6
012	J16DV7		30.0	1.0		10		1.0	N	93.11	358.0
08LE0139-MB1	PBLKOG		30.0	1.0		10		1.0	N	100.00	333.3
08LE0139-MB1 -S	PBLKOG		30.0	1.0	1.0	10		1.0	N	100.00	333.3

Comments:
Surrogate: 250 UL OLM PSURR 89916405
Spike: 250 UL AR1660 89916602

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
all	[illegible]	3/21/08 1308	SZ	3/21/08 13:10	GC

000000007

onville Laboratory Use Only
08031785

Custody Transfer Record/Lab Work Request

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

ent: TNU Hanford RC-032
. Final Proj. Sampling Date:
ject#: 11343-606-001-9999-00
ject Contact/Phone#:
nville Laboratory Project Manager: O Johnson
SW846 Del: STD TAT: 30Dty
te Rec'd: 3/20/08 Date Due: 3-23-08

	A	B	C	D	E	F	G
Refrigerator #							
#/Type Container (Liquid / Solid)	1gL	1gL	1gL	1gL	2pL	1pL	
Volume	120mL	120mL	60mL	120mL	120mL	125mL	
Preservatives							
ANALYSES REQUESTED (ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN)			PCB				

Lionville Laboratory Use Only

TRIX DES: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP, Leachate, Wipe, Other, Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0625H	0605H	OPCB	TPHC	418.1 TPH	TCLP Metals + Hg	Hexchrom	TCRG
					S	3/18/08									
	001	J16DT6			S	3/18/08	1140						X		
	002	J16DT7			S		1145	X	X	X		X	X	X	
	003	J16DT8			S		1150	X	X	X		X	X	X	
	004	J16DT9			S		1155	X	X	X		X	X	X	
	005	J16DV0			S		1200	X	X	X		X	X	X	
	006	J16DV1			S		1205	X	X	X		X	X	X	
	007	J16DV2			S		1210	X	X	X		X	X	X	
	008	J16DV3			S		1215	X	X	X		X	X	X	
	009	J16DV4			S		1220	X	X	X		X	X	X	
	010	J16DV5			S		1225	X	X	X		X	X	X	

ecial Instructions:

TCL met = HSL+B, Mo, Si
NOTL

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

Relinquished by	Received by	Date	Time
Fedy	[signature]	3/18/08	940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

0000000008

onville Laboratory Use Only
3803L785

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

VLI

ent: TNU HANFORD
Final Proj. Sampling Date: 8/V
ject#:
ject Contact/Phone#: 9 V
nville Laboratory Project Manager:
Del: TAT: 3 DAY
te Rec'd: 3/20/08 Date Due:

Refrigerator #		A	B	C	D	E	F G
#/Type Container	Liquid / Solid						
Volume							
Preservatives							

ANALYSES REQUESTED →

	ORGANIC							INORG							
	VOA	BNA	Pest/PCB	Herb				Metal	CN						
Lionville Laboratory Use Only		0625H	0608H		PCB	TPH	418.1	ICP metals	Hexchrom	ICP					

TRIX DES:
Soil
Sediment
Solid
Sludge
Water
Oil
Air
Drum Solids
Drum Liquids
EP/TCLP
Leachate
Wipe
Other
Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0625H	0608H	PCB	TPH	418.1	ICP metals	Hexchrom	ICP
011	J16DV6			S	3/18/08	1230	X	X	X		X	X	X	
012	J16DV7			S	3/18/08	1230	X	X	X		X	X	X	

ecial Instructions:

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

Relinquished by	Received by	Date	Time
Fedex	[signature]	3/20/08	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000009

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 1 of 1

Collector: T. Welch-Koelling	Company Contact: JR DEBUIGNE	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8A	Data Turnaround: 3 DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No.: RC-032
Ice Chest No.: AFS-06-004	Field Logbook No.: EFL-1174-4	COA: R120F12000	Method of Shipment: FED EX Temp 25°C
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080200		Bill of Lading/Air Bill No.: See OSPC 7904 7295 4470

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
J16DT6	SOIL	3-18-08	1140	X							ED
J16DT7	SOIL		1145	X	X	X	X	X	X		1
J16DT8	SOIL		1150	X	X	X	X	X	X		2
J16DT9	SOIL		1155	X	X	X	X	X	X		3
J16DV0	SOIL		1200	X	X	X	X	X	X		4

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 3/18/08 1370	Received By/Stored In	Date/Time 1320 3-18-08
Relinquished By/Removed From	Date/Time 1600 3-18-08	Received By/Stored In	Date/Time 1600 3/18/05
Relinquished By/Removed From	Date/Time 1000 3/18/05	Received By/Stored In	Date/Time Fed Ex
Relinquished By/Removed From	Date/Time 3.20.08 0970	Received By/Stored In	Date/Time 3.20.08
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

Coffer Temp 2.5°C

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time 3/24/08	
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time	

WCH-EE-011

000000010

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 2 of 3

Collector T. Welch-Koelling	Company Contact JR DEBUIGNE	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code 8A	Data Turnaround 3 DAY
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No. RC-032		
Ice Chest No. AFS-06-001	Field Logbook No. EFL-1174-4	COA R120F12000	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES / KONVILLE	Offsite Property No. A080200		Bill of Lading/Air Bill No. See OSPC 7984 ac29318	Temp 3°C	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
J16DV1	SOIL	3-18-08	1205	X	X	X	X	X	X				5
J16DV2	SOIL		1210	X	X	X	X	X	X				6
J16DV3	SOIL		1215	X	X	X	X	X	X				7
J16DV4	SOIL		1220	X	X	X	X	X	X				8
J16DV5	SOIL		1225	X	X	X	X	X	X				9

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	3/18/08 1320	JR DeBuigne [signature]	1320 3-18-08
JR DeBuigne [signature]	3-18-08 1600	[signature] MStankovich	1600 3/18/08
[signature] MStankovich	3/19/08 1500	Fed Ex	
Fed Ex	3 20 08 0940	[signature]	3 20 08 0940

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

Cooler Temp 2.0°C

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By [signature]	Title Lab Tech	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

VCH-EE-011

000000011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 1 of 1
Collector: T. Welch-Koelling	Company Contact: JR DEBUIGNE; Telephone No.: 528-6409	Project Coordinator: KESSNER, JH	Price Code: 8A; Data Turnaround: 3 DAY
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 120-F-1 Glass Dump Verification phase 2 (NW Excavation)	SAF No.: RC-032	
Ice Chest No.: AFS-06-002	Field Logbook No.: EFL-1174-4; COA: R120F12000	Method of Shipment: FED EX	
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080200	Bill of Lading/Air Bill No. See OSPC: 7910250457 57	2°C

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
J16DV6 / SOIL / 3-18-08 / 1230	X	X	X	X	X	X					10
J16DV7 / SOIL / 3-18-08 / 1230	X	X	X	X	X	X					10 D

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	3/18/08 1320	JR DeBuigne [signature]	3-18-08 1320
JR DeBuigne [signature]	3-18-08 1600	M Stankovich [signature]	3/18/08 1600
M Stankovich [signature]	3/19/08 1500	Fed Ex	
Fed Ex	3-20-08 0940	M Ard	3-20-08 0940

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By: [signature]	Title: Lab Tech	Date/Time: 3/20/08
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

000000012

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford

Date: 3.20.08

Project/SAF/SOW/Release #:

LvLI Batch #: 0803L785

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier (Fed) Ex		Airbill # 7984 0002 9318 7904 7295 4470 7910 2504 5757
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 2.0 2.5 3.0 °C		Cooler # AFS.06-001
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify): AFS-06-004 AFS-06-002
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 _____		Date _____	

LvLI LIONVILLE LABORATORY INC

SR-002-B.doc

RECEIVED
APR 2008

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :08031788

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16DT6						
SILVER, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	001	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	001	S	08L0109	03/18/08	03/24/08	03/25/08
J16DT7						
SILVER, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
SILVER, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
SILVER, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ARSENIC, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	002	S	08C0050	03/18/08	03/21/08	03/24/08
MERCURY, TOTAL	002 REP	S	08C0050	03/18/08	03/21/08	03/24/08
MERCURY, TOTAL	002 MS	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
POTASSIUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
POTASSIUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MANGANESE, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	002	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	002 REP	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	002 MS	S	08L0109	03/18/08	03/24/08	03/25/08
J16DT8						
SILVER, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BERYLLIUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	003	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	003	S	08L0109	03/18/08	03/24/08	03/25/08
J16DT9						
SILVER, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	004	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MANGANESE, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	004	S	08L0109	03/18/08	03/24/08	03/25/08
J16DV0						
SILVER, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	005	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	005	S	08L0109	03/18/08	03/24/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16DV1						
SILVER, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	006	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	006	S	08L0109	03/18/08	03/24/08	03/25/08
J16DV2						
SILVER, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CADMIUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	007	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	007	S	08L0109	03/18/08	03/24/08	03/25/08
J16DV3						
SILVER, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	008	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SODIUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	008	S	08L0109	03/18/08	03/24/08	03/25/08
J16DV4						
SILVER, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	009	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	009	S	08L0109	03/18/08	03/24/08	03/25/08
J16DV5						
SILVER, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ALUMINUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	010	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	010	S	08L0109	03/18/08	03/24/08	03/25/08
J16DV6						
SILVER, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	011	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
SELENIUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	011	S	08L0109	03/18/08	03/24/08	03/25/08
J16DV7						
SILVER, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
ALUMINUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
ARSENIC, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
BORON, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
BARIUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
BERYLLIUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
CALCIUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
CADMIUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
COBALT, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
CHROMIUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
COPPER, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
IRON, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
MERCURY, TOTAL	012	S	08C0050	03/18/08	03/21/08	03/24/08
POTASSIUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
MAGNESIUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
MANGANESE, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
MOLYBDENUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
SODIUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
NICKEL, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
LEAD, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
ANTIMONY, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SELENIUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
SILICON, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
VANADIUM, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08
ZINC, TOTAL	012	S	08L0109	03/18/08	03/24/08	03/25/08

LAB QC:

SILVER LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
SILVER, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
ALUMINUM LABORTORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
ALUMINUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
ARSENIC LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
ARSENIC, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
BORON LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
BORON, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
BARIUM LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
BARIUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
BERYLLIUM LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
BERYLLIUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
CALCIUM LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
CALCIUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
CADMIUM LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
CADMIUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
COBALT LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
COBALT, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
CHROMIUM LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
CHROMIUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
COPPER LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
COPPER, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
IRON LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
IRON, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
MERCURY LABORATORY	LC1 BS	S	08C0050	N/A	03/21/08	03/24/08
MERCURY, TOTAL	MB1	S	08C0050	N/A	03/21/08	03/24/08
POTASSIUM LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
POTASSIUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
MAGNESIUM LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
MAGNESIUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
MANGANESE LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MANGANESE, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
MOLYBDENUM LABORATOR	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
MOLYBDENUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
SODIUM LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
SODIUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
NICKEL LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
NICKEL, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
LEAD LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
LEAD, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
ANTIMONY LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
ANTIMONY, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
SELENIUM LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
SELENIUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
SILICON LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
SILICON, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
VANADIUM LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
VANADIUM, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08
ZINC LABORATORY	LC1 BS	S	08L0109	N/A	03/24/08	03/25/08
ZINC, TOTAL	MB1	S	08L0109	N/A	03/24/08	03/25/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-032
LVL#: 0803L785
SDG/SAF#: K1155/RC-032

W.O.#: 11343-606-001-9999-00
Date Received: 03-20-08

METALS CASE NARRATIVE

The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvLI) certifies that all test results meet the requirements of NELAC except as noted below.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise.

1. This narrative covers the analyses of 12 solid samples.

2. . The samples were prepared and analyzed in accordance with methods checked on the attached glossary. The sample is reported on a wet weight, 'as-received' basis.

   All samples were run at a 3-fold dilution due to sample matrix with the exception of sample J16DT6.

3. All analyses were performed within the required holding times.

4. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).

5. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the LOQ).

6. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation (3-10X the LOD), or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

7. All ICP Interference Check Standards were within control limits.

8. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.

9. The matrix spike (MS) recoveries for 4 analytes were outside the 75-125% control limits.

The results presented in this report relate only to the analytical testing and conditions of the samples at 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 41 pages.

Refer to the Inorganics Accuracy Report.

10. For analytes where the ICP MS is out-of-control, a post-digestion MS (PDS) and serial dilution are performed. A PDS was prepared at meaningful concentration level for the following analytes:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J16DT7	Aluminum	60,000	95.5
	Iron	60,000	118.1
	Antimony	300	105.0
	Silicon	3,300	99.0

11. All duplicate analyses were within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

12. For the purposes of this report, the data has been reported to the Limit of Detection (LOD). Values between the LOD and the Limit of Quantitation (LOQ) are acquired in a region of less-certain quantification.

13. LvLI is NELAP accredited by the state of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

14. 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 data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

3/26/08
Date

alm/m03-785

LvLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within tl

Lot#: 0803L785

Leaching Procedure: __1310 __1311 __1312 __Other:_____

CLP Metals __ Digestion and __ Analysis Methods: __ILM03.0 __ILM04.0

Metals Digestion Methods: __3005A __3010A __3015 __3020A ✓3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	✓6010B		__200.7				__99
Antimony	✓6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	✓6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	✓6010B		__200.7				__99
Beryllium	✓6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	✓6010B		__200.7				__99
Cadmium	✓6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	✓6010B		__200.7				__99
Chromium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	✓6010B		__200.7				__99
Copper	✓6010B	__7211 [5]	__200.7	__220.2			__99
Iron	✓6010B		__200.7				__99
Lead	✓6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	✓6010B		__200.7				__99
Manganese	✓6010B		__200.7				__99
Mercury	__7470A [3]	✓7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	✓6010B		__200.7				__99
Nickel	✓6010B		__200.7				__99
Potassium	✓6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	✓6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	✓6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	✓6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	✓6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B		__200.7				__99
Thallium	✓6010B	__7841 [5]	__200.7	__279.2	__200.9		__99
Tin	__6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	__6010B [1]		__200.7 [1]			__1620	__99
Vanadium	✓6010B		__200.7				__99
Zinc	✓6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

L-W1-033/M-03/01

000000015

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
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.

2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J16DT6	Silver, Total	0.08 u	MG/KG	0.08	1.0
		Aluminum, Total	49.7	MG/KG	3.2	1.0
		Arsenic, Total	0.40 u	MG/KG	0.40	1.0
		Boron, Total	0.40 u	MG/KG	0.40	1.0
		Barium, Total	1.0	MG/KG	0.08	1.0
		Beryllium, Total	0.04 u	MG/KG	0.04	1.0
		Calcium, Total	20.6	MG/KG	3.2	1.0
		Cadmium, Total	0.04 u	MG/KG	0.04	1.0
		Cobalt, Total	0.16 u	MG/KG	0.16	1.0
		Chromium, Total	0.16 u	MG/KG	0.16	1.0
		Copper, Total	0.16 u	MG/KG	0.16	1.0
		Iron, Total	124	MG/KG	3.6	1.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	15.2	MG/KG	3.2	1.0
		Magnesium, Total	10.1	MG/KG	2.0	1.0
		Manganese, Total	3.2	MG/KG	0.03	1.0
		Molybdenum, Total	0.24 u	MG/KG	0.24	1.0
		Sodium, Total	10.6	MG/KG	1.6	1.0
		Nickel, Total	0.16 u	MG/KG	0.16	1.0
		Lead, Total	0.24 u	MG/KG	0.24	1.0
		Antimony, Total	0.24 u	MG/KG	0.24	1.0
		Selenium, Total	0.48 u	MG/KG	0.48	1.0
		Silicon, Total	42.1	MG/KG	3.2	1.0
		Vanadium, Total	0.11 u	MG/KG	0.11	1.0
		Zinc, Total	0.48 u	MG/KG	0.48	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J16DT7	Silver, Total	0.27 u	MG/KG	0.27	3.0
		Aluminum, Total	6530	MG/KG	10.9	3.0
		Arsenic, Total	2.0	MG/KG	1.4	3.0
		Boron, Total	1.6	MG/KG	1.4	3.0
		Barium, Total	65.3	MG/KG	0.27	3.0
		Beryllium, Total	0.26	MG/KG	0.14	3.0
		Calcium, Total	3750	MG/KG	10.9	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	7.3	MG/KG	0.54	3.0
		Chromium, Total	11.1	MG/KG	0.54	3.0
		Copper, Total	12.2	MG/KG	0.54	3.0
		Iron, Total	21400	MG/KG	12.2	3.0
		Mercury, Total	0.008u	MG/KG	0.008	1.0
		Potassium, Total	1170	MG/KG	10.9	3.0
		Magnesium, Total	4370	MG/KG	6.8	3.0
		Manganese, Total	305	MG/KG	0.11	3.0
		Molybdenum, Total	0.82 u	MG/KG	0.82	3.0
		Sodium, Total	139	MG/KG	5.4	3.0
		Nickel, Total	11.6	MG/KG	0.54	3.0
		Lead, Total	2.8	MG/KG	0.82	3.0
		Antimony, Total	0.82 u	MG/KG	0.82	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	387	MG/KG	10.9	3.0
		Vanadium, Total	53.7	MG/KG	0.38	3.0
		Zinc, Total	37.7	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J16DT8	Silver, Total	0.28 u	MG/KG	0.28	3.0
		Aluminum, Total	7360	MG/KG	11.1	3.0
		Arsenic, Total	2.6	MG/KG	1.4	3.0
		Boron, Total	2.0	MG/KG	1.4	3.0
		Barium, Total	69.0	MG/KG	0.28	3.0
		Beryllium, Total	0.26	MG/KG	0.14	3.0
		Calcium, Total	3910	MG/KG	11.1	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	7.1	MG/KG	0.56	3.0
		Chromium, Total	11.8	MG/KG	0.56	3.0
		Copper, Total	13.3	MG/KG	0.56	3.0
		Iron, Total	21100	MG/KG	12.5	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1230	MG/KG	11.1	3.0
		Magnesium, Total	4360	MG/KG	6.9	3.0
		Manganese, Total	329	MG/KG	0.11	3.0
		Molybdenum, Total	0.83 u	MG/KG	0.83	3.0
		Sodium, Total	132	MG/KG	5.6	3.0
		Nickel, Total	11.8	MG/KG	0.56	3.0
		Lead, Total	3.0	MG/KG	0.83	3.0
		Antimony, Total	0.83 u	MG/KG	0.83	3.0
		Selenium, Total	1.8	MG/KG	1.7	3.0
		Silicon, Total	423	MG/KG	11.1	3.0
		Vanadium, Total	48.7	MG/KG	0.39	3.0
		Zinc, Total	38.8	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J16DT9	Silver, Total	0.26 u	MG/KG	0.26	3.0
		Aluminum, Total	5120	MG/KG	10.4	3.0
		Arsenic, Total	2.0	MG/KG	1.3	3.0
		Boron, Total	1.3 u	MG/KG	1.3	3.0
		Barium, Total	30.7	MG/KG	0.26	3.0
		Beryllium, Total	0.17	MG/KG	0.13	3.0
		Calcium, Total	4150	MG/KG	10.4	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	5.0	MG/KG	0.52	3.0
		Chromium, Total	12.4	MG/KG	0.52	3.0
		Copper, Total	11.4	MG/KG	0.52	3.0
		Iron, Total	14800	MG/KG	11.7	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	654	MG/KG	10.4	3.0
		Magnesium, Total	3820	MG/KG	6.5	3.0
		Manganese, Total	239	MG/KG	0.10	3.0
		Molybdenum, Total	0.78 u	MG/KG	0.78	3.0
		Sodium, Total	112	MG/KG	5.2	3.0
		Nickel, Total	11.0	MG/KG	0.52	3.0
		Lead, Total	1.6	MG/KG	0.78	3.0
		Antimony, Total	0.78 u	MG/KG	0.78	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	364	MG/KG	10.4	3.0
		Vanadium, Total	35.6	MG/KG	0.36	3.0
		Zinc, Total	28.7	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	J16DV0	Silver, Total	0.26 u	MG/KG	0.26	3.0
		Aluminum, Total	5050	MG/KG	10.4	3.0
		Arsenic, Total	2.1	MG/KG	1.3	3.0
		Boron, Total	1.3 u	MG/KG	1.3	3.0
		Barium, Total	30.7	MG/KG	0.26	3.0
		Beryllium, Total	0.15	MG/KG	0.13	3.0
		Calcium, Total	4860	MG/KG	10.4	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	4.8	MG/KG	0.52	3.0
		Chromium, Total	13.0	MG/KG	0.52	3.0
		Copper, Total	10.4	MG/KG	0.52	3.0
		Iron, Total	14100	MG/KG	11.7	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	617	MG/KG	10.4	3.0
		Magnesium, Total	4020	MG/KG	6.5	3.0
		Manganese, Total	238	MG/KG	0.10	3.0
		Molybdenum, Total	0.78 u	MG/KG	0.78	3.0
		Sodium, Total	131	MG/KG	5.2	3.0
		Nickel, Total	13.0	MG/KG	0.52	3.0
		Lead, Total	1.7	MG/KG	0.78	3.0
		Antimony, Total	0.78 u	MG/KG	0.78	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	342	MG/KG	10.4	3.0
		Vanadium, Total	34.3	MG/KG	0.36	3.0
		Zinc, Total	27.7	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	J16DV1	Silver, Total	0.26 u	MG/KG	0.26	3.0
		Aluminum, Total	4860	MG/KG	10.2	3.0
		Arsenic, Total	2.2	MG/KG	1.3	3.0
		Boron, Total	1.3 u	MG/KG	1.3	3.0
		Barium, Total	27.0	MG/KG	0.26	3.0
		Beryllium, Total	0.17	MG/KG	0.13	3.0
		Calcium, Total	4030	MG/KG	10.2	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	4.9	MG/KG	0.51	3.0
		Chromium, Total	9.3	MG/KG	0.51	3.0
		Copper, Total	10.5	MG/KG	0.51	3.0
		Iron, Total	14100	MG/KG	11.5	3.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	584	MG/KG	10.2	3.0
		Magnesium, Total	3600	MG/KG	6.4	3.0
		Manganese, Total	229	MG/KG	0.10	3.0
		Molybdenum, Total	0.76 u	MG/KG	0.76	3.0
		Sodium, Total	174	MG/KG	5.1	3.0
		Nickel, Total	11.1	MG/KG	0.51	3.0
		Lead, Total	2.1	MG/KG	0.76	3.0
		Antimony, Total	0.91	MG/KG	0.76	3.0
		Selenium, Total	1.5 u	MG/KG	1.5	3.0
		Silicon, Total	341	MG/KG	10.2	3.0
		Vanadium, Total	34.6	MG/KG	0.36	3.0
		Zinc, Total	28.1	MG/KG	1.5	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155

LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	J16DV2	Silver, Total	0.25 u	MG/KG	0.25	3.0
		Aluminum, Total	5990	MG/KG	10.1	3.0
		Arsenic, Total	2.4	MG/KG	1.3	3.0
		Boron, Total	1.6	MG/KG	1.3	3.0
		Barium, Total	39.7	MG/KG	0.25	3.0
		Beryllium, Total	0.21	MG/KG	0.13	3.0
		Calcium, Total	3850	MG/KG	10.1	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	5.7	MG/KG	0.51	3.0
		Chromium, Total	11.1	MG/KG	0.51	3.0
		Copper, Total	13.3	MG/KG	0.51	3.0
		Iron, Total	16900	MG/KG	11.4	3.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	730	MG/KG	10.1	3.0
		Magnesium, Total	4000	MG/KG	6.3	3.0
		Manganese, Total	269	MG/KG	0.10	3.0
		Molybdenum, Total	0.76 u	MG/KG	0.76	3.0
		Sodium, Total	120	MG/KG	5.1	3.0
		Nickel, Total	11.3	MG/KG	0.51	3.0
		Lead, Total	2.2	MG/KG	0.76	3.0
		Antimony, Total	0.76 u	MG/KG	0.76	3.0
		Selenium, Total	1.5 u	MG/KG	1.5	3.0
		Silicon, Total	412	MG/KG	10.1	3.0
		Vanadium, Total	40.6	MG/KG	0.35	3.0
		Zinc, Total	31.1	MG/KG	1.5	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155

LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-008	J16DV3	Silver, Total	0.26 u	MG/KG	0.26	3.0
		Aluminum, Total	4660	MG/KG	10.6	3.0
		Arsenic, Total	2.3	MG/KG	1.3	3.0
		Boron, Total	1.5	MG/KG	1.3	3.0
		Barium, Total	63.3	MG/KG	0.26	3.0
		Beryllium, Total	0.24	MG/KG	0.13	3.0
		Calcium, Total	5060	MG/KG	10.6	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	8.5	MG/KG	0.53	3.0
		Chromium, Total	8.8	MG/KG	0.53	3.0
		Copper, Total	10.3	MG/KG	0.53	3.0
		Iron, Total	24600	MG/KG	11.9	3.0
		Mercury, Total	0.007u	MG/KG	0.007	1.0
		Potassium, Total	733	MG/KG	10.6	3.0
		Magnesium, Total	4330	MG/KG	6.6	3.0
		Manganese, Total	324	MG/KG	0.11	3.0
		Molybdenum, Total	0.79 u	MG/KG	0.79	3.0
		Sodium, Total	147	MG/KG	5.3	3.0
		Nickel, Total	11.3	MG/KG	0.53	3.0
		Lead, Total	1.6	MG/KG	0.79	3.0
		Antimony, Total	0.79 u	MG/KG	0.79	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	434	MG/KG	10.6	3.0
		Vanadium, Total	67.7	MG/KG	0.37	3.0
		Zinc, Total	40.9	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-009	J16DV4	Silver, Total	0.28 u	MG/KG	0.28	3.0
		Aluminum, Total	5400	MG/KG	11.0	3.0
		Arsenic, Total	2.5	MG/KG	1.4	3.0
		Boron, Total	1.4	MG/KG	1.4	3.0
		Barium, Total	52.9	MG/KG	0.28	3.0
		Beryllium, Total	0.23	MG/KG	0.14	3.0
		Calcium, Total	4020	MG/KG	11.0	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	7.2	MG/KG	0.55	3.0
		Chromium, Total	9.4	MG/KG	0.55	3.0
		Copper, Total	10.9	MG/KG	0.55	3.0
		Iron, Total	21300	MG/KG	12.4	3.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	826	MG/KG	11.0	3.0
		Magnesium, Total	4140	MG/KG	6.9	3.0
		Manganese, Total	307	MG/KG	0.11	3.0
		Molybdenum, Total	0.83 u	MG/KG	0.83	3.0
		Sodium, Total	140	MG/KG	5.5	3.0
		Nickel, Total	11.0	MG/KG	0.55	3.0
		Lead, Total	2.8	MG/KG	0.83	3.0
		Antimony, Total	0.83 u	MG/KG	0.83	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	543	MG/KG	11.0	3.0
		Vanadium, Total	55.2	MG/KG	0.39	3.0
		Zinc, Total	38.1	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-010	J16DV5	Silver, Total	0.28 u	MG/KG	0.28	3.0
		Aluminum, Total	5030	MG/KG	11.4	3.0
		Arsenic, Total	2.6	MG/KG	1.4	3.0
		Boron, Total	1.4 u	MG/KG	1.4	3.0
		Barium, Total	29.2	MG/KG	0.28	3.0
		Beryllium, Total	0.16	MG/KG	0.14	3.0
		Calcium, Total	4460	MG/KG	11.4	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	4.9	MG/KG	0.57	3.0
		Chromium, Total	10.1	MG/KG	0.57	3.0
		Copper, Total	10.7	MG/KG	0.57	3.0
		Iron, Total	14900	MG/KG	12.8	3.0
		Mercury, Total	0.008u	MG/KG	0.008	1.0
		Potassium, Total	653	MG/KG	11.4	3.0
		Magnesium, Total	3700	MG/KG	7.1	3.0
		Manganese, Total	241	MG/KG	0.11	3.0
		Molybdenum, Total	0.85 u	MG/KG	0.85	3.0
		Sodium, Total	112	MG/KG	5.7	3.0
		Nickel, Total	10.8	MG/KG	0.57	3.0
		Lead, Total	1.8	MG/KG	0.85	3.0
		Antimony, Total	0.85 u	MG/KG	0.85	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	381	MG/KG	11.4	3.0
		Vanadium, Total	35.7	MG/KG	0.40	3.0
		Zinc, Total	29.4	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-011	J16DV6	Silver, Total	0.29 u	MG/KG	0.29	3.0
		Aluminum, Total	7520	MG/KG	11.6	3.0
		Arsenic, Total	2.7	MG/KG	1.4	3.0
		Boron, Total	1.9	MG/KG	1.4	3.0
		Barium, Total	77.4	MG/KG	0.29	3.0
		Beryllium, Total	0.34	MG/KG	0.14	3.0
		Calcium, Total	3820	MG/KG	11.6	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	8.2	MG/KG	0.58	3.0
		Chromium, Total	11.6	MG/KG	0.58	3.0
		Copper, Total	11.6	MG/KG	0.58	3.0
		Iron, Total	23500	MG/KG	13.0	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1400	MG/KG	11.6	3.0
		Magnesium, Total	4220	MG/KG	7.2	3.0
		Manganese, Total	378	MG/KG	0.12	3.0
		Molybdenum, Total	0.87 u	MG/KG	0.87	3.0
		Sodium, Total	123	MG/KG	5.8	3.0
		Nickel, Total	11.9	MG/KG	0.58	3.0
		Lead, Total	3.9	MG/KG	0.87	3.0
		Antimony, Total	0.87 u	MG/KG	0.87	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	466	MG/KG	11.6	3.0
		Vanadium, Total	54.0	MG/KG	0.40	3.0
		Zinc, Total	42.5	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 03/26/08

CLIENT: TNUHANFORD RC-022 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-012	J16DV7	Silver, Total	0.29 u	MG/KG	0.29	3.0
		Aluminum, Total	7270	MG/KG	11.5	3.0
		Arsenic, Total	3.0	MG/KG	1.4	3.0
		Boron, Total	1.9	MG/KG	1.4	3.0
		Barium, Total	81.0	MG/KG	0.29	3.0
		Beryllium, Total	0.34	MG/KG	0.14	3.0
		Calcium, Total	3930	MG/KG	11.5	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	7.8	MG/KG	0.58	3.0
		Chromium, Total	10.6	MG/KG	0.58	3.0
		Copper, Total	12.6	MG/KG	0.58	3.0
		Iron, Total	22600	MG/KG	12.9	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1390	MG/KG	11.5	3.0
		Magnesium, Total	4180	MG/KG	7.2	3.0
		Manganese, Total	271	MG/KG	0.12	3.0
		Molybdenum, Total	0.86 u	MG/KG	0.86	3.0
		Sodium, Total	126	MG/KG	5.8	3.0
		Nickel, Total	12.1	MG/KG	0.58	3.0
		Lead, Total	4.4	MG/KG	0.86	3.0
		Antimony, Total	0.86 u	MG/KG	0.86	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	495	MG/KG	11.5	3.0
		Vanadium, Total	52.8	MG/KG	0.40	3.0
		Zinc, Total	41.9	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L765

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0109-MB1	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Aluminum, Total	4.0 u	MG/KG	4.0	1.0
		Arsenic, Total	0.50 u	MG/KG	0.50	1.0
		Boron, Total	0.50 u	MG/KG	0.50	1.0
		Barium, Total	0.10 u	MG/KG	0.10	1.0
		Beryllium, Total	0.05 u	MG/KG	0.05	1.0
		Calcium, Total	11.7	MG/KG	4.0	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Cobalt, Total	0.20 u	MG/KG	0.20	1.0
		Chromium, Total	0.20 u	MG/KG	0.20	1.0
		Copper, Total	0.20 u	MG/KG	0.20	1.0
		Iron, Total	7.1	MG/KG	4.5	1.0
		Potassium, Total	4.0 u	MG/KG	4.0	1.0
		Magnesium, Total	4.6	MG/KG	2.5	1.0
		Manganese, Total	0.07	MG/KG	0.04	1.0
		Molybdenum, Total	0.30 u	MG/KG	0.30	1.0
		Sodium, Total	9.2	MG/KG	2.0	1.0
		Nickel, Total	0.20 u	MG/KG	0.20	1.0
		Lead, Total	0.30 u	MG/KG	0.30	1.0
		Antimony, Total	0.30 u	MG/KG	0.30	1.0
		Selenium, Total	0.60 u	MG/KG	0.60	1.0
		Silicon, Total	4.0 u	MG/KG	4.0	1.0
		Vanadium, Total	0.14 u	MG/KG	0.14	1.0
		Zinc, Total	0.60 u	MG/KG	0.60	1.0
BLANK1	08C0050-MB1	Mercury, Total	0.01 u	MG/KG	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	J16DT7	Silver, Total	4.1	0.27u	4.5	91.1	3.0
		Aluminum, Total	7030	6530	181	274.7*	3.0
		Arsenic, Total	175	2.0	181	95.6	3.0
		Boron, Total	86.8	1.6	90.7	93.9	3.0
		Barium, Total	232	65.3	181	91.6	3.0
		Beryllium, Total	4.7	0.26	4.5	98.8	3.0
		Calcium, Total	6450	3750	2270	119.3	3.0
		Cadmium, Total	4.5	0.14u	4.5	100	3.0
		Cobalt, Total	51.5	7.3	45.3	97.6	3.0
		Chromium, Total	28.6	11.1	18.1	96.7	3.0
		Copper, Total	33.7	12.2	22.7	94.7	3.0
		Iron, Total	22000	21400	90.7	645.5*	3.0
		Mercury, Total	0.14	0.00u	0.14	101.5	1.0
		Potassium, Total	3090	1170	2270	84.4	3.0
		Magnesium, Total	6920	4370	2270	112.5	3.0
		Manganese, Total	353	305	45.3	106.8*	3.0
		Molybdenum, Total	84.1	0.82u	90.7	92.7	3.0
		Sodium, Total	2160	139	2270	89.1	3.0
		Nickel, Total	55.8	11.6	45.3	97.6	3.0
		Lead, Total	45.9	2.8	45.3	95.1	3.0
		Antimony, Total	24.8	0.82u	45.3	54.7	3.0
		Selenium, Total	149	1.6 u	181	82.3	3.0
		Silicon, Total	539	387	90.7	167.3*	3.0
		Vanadium, Total	98.8	53.7	45.3	99.6	3.0
		Zinc, Total	81.1	37.7	45.3	95.8	3.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-002REP	J16DT7	Silver, Total	0.27u	0.26u	NC	3.0
		Aluminum, Total	6530	6530	0.10	3.0
		Arsenic, Total	2.0	2.0	0.00	3.0
		Boron, Total	1.6	1.6	0.00	3.0
		Barium, Total	65.3	59.3	9.6	3.0
		Beryllium, Total	0.26	0.25	3.3	3.0
		Calcium, Total	3750	4000	6.5	3.0
		Cadmium, Total	0.14u	0.13u	NC	3.0
		Cobalt, Total	7.3	7.3	0.00	3.0
		Chromium, Total	11.1	11.5	3.5	3.0
		Copper, Total	12.2	12.2	0.00	3.0
		Iron, Total	21400	22000	2.7	3.0
		Mercury, Total	0.00u	0.00u	NC	1.0
		Potassium, Total	1170	1050	11.2	3.0
		Magnesium, Total	4370	4480	2.5	3.0
		Manganese, Total	305	308	0.95	3.0
		Molybdenum, Total	0.82u	0.78u	NC	3.0
		Sodium, Total	139	147	5.2	3.0
		Nickel, Total	11.6	12.9	10.6	3.0
		Lead, Total	2.8	2.3	19.6	3.0
		Antimony, Total	0.82u	0.78u	NC	3.0
		Selenium, Total	1.6 u	1.6 u	NC	3.0
		Silicon, Total	387	371	4.2	3.0
		Vanadium, Total	53.7	55.3	2.9	3.0
		Zinc, Total	37.7	38.5	2.1	3.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 03/26/08

CLIENT: TNUHANFORD RC-032 K1155

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

LVL LOT #: 0803L785

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0109-LC1	Silver, LCS	46.5	50.0	MG/KG	93.0
		Aluminum, LCS	478	500	MG/KG	95.7
		Arsenic, LCS	966	1000	MG/KG	96.6
		Boron, LCS	467	500	MG/KG	93.4
		Barium, LCS	475	500	MG/KG	95.1
		Beryllium, LCS	25.4	25.0	MG/KG	101.6
		Calcium, LCS	2670	2500	MG/KG	107.0
		Cadmium, LCS	25.6	25.0	MG/KG	102.4
		Cobalt, LCS	251	250	MG/KG	100.5
		Chromium, LCS	50.7	50.0	MG/KG	101.4
		Copper, LCS	119	125	MG/KG	95.0
		Iron, LCS	498	500	MG/KG	99.5
		Potassium, LCS	2230	2500	MG/KG	89.3
		Magnesium, LCS	2490	2500	MG/KG	99.6
		Manganese, LCS	78.8	75.0	MG/KG	105.1
		Molybdenum, LCS	478	500	MG/KG	95.6
		Sodium, LCS	2170	2500	MG/KG	87.0
		Nickel, LCS	202	200	MG/KG	100.8
		Lead, LCS	256	250	MG/KG	102.2
		Antimony, LCS	286	300	MG/KG	95.2
		Selenium, LCS	911	1000	MG/KG	91.1
		Silicon, LCS	160	500	MG/KG	32.1
		Vanadium, LCS	249	250	MG/KG	99.6
		Zinc, LCS	96.6	100	MG/KG	96.6
LCS1	08C0050-LC1	Mercury, LCS	4.9	4.7	MG/KG	105.3

Lionville Laboratory Incorporated Logbook #: 440

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0109
Date/Time Initiated: 3/24/08 1200
Date/Time Completed: 3/24/08 1800
Analyst(s): MW
Matrix: (Soil) Water Other:
Instr. Type: AA (ICP)
Parameters: See Spiking

(Digested) / Undigested (circle one)
Balance #: 620
Balance Cal Verif: (Y) NA
Hot Plate Temp: 89°C

Method: SW (circle)
3005A
3010A
3015
3020A
7060A (As/Se)
7760A (Ag)
(3050B)
3051
CLP ILMO3.0
ILMO4.0

DW 200.7 (1994)
200.9
3113B
MCAWW 200.7 (1982)
200 (AA)
206.2 (As/Se)
SM 3030C (NC)
Other

MW

COC Batch #	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/So/TC	Texture	Color/Appearance	Artifact	Turb
0803L785-001		1.25 gm	100 ml	<2	TO	coarse	Ottawa sand	N/A	N/A
002		1.13 gm				fine	brown/rocks		
002R		1.18 gm							
002S	1.0 ml	1.13 gm							
003		1.14 gm							
004		1.18 gm							RADI
005		1.17 gm							
006		1.24 gm							
007		1.22 gm							N/A
008		1.15 gm							
009		1.17 gm							
010		1.09 gm							
011		1.12 gm							
012		1.12 gm							
08L0109-MB1		1.0 gm				coarse	floating chips		
LC1	1.0 ml	1.0 gm							

MW 3/24/08

Spiking IDs:
MS #: 8100-04-01
02
03
6072-078-07
LCS #: 08
09
10
11

Reagent IDs:
HNO_3 E22071
HCL E45047
H_2O_2 E44A06
1:1 HNO_3 9789-07-06
1:1 HCL

File ID#: IC010901
LIMS Transfer: (Y) N
Data Review By/Date: PMP, 03/25/08

Updated

Lionville Laboratory Incorporated

MERCURY PREPARATION

Logbook # 422

Analyst: CA
Date 3/21/08
Start Time/Temp: 1445 | 92°
End Time/Temp: 1515 | 97°

Instrument ID H63.1
Balance #: B29 /NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 08C0050
Worksheet: HG032401
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? __ Yes NA No (If no: designate affected samples in Comments column, and initiate an SDR)

NOTE: The Inital/Final Volume for water samples = 33mL, unless otherwise noted.
The Final volume for soil samples = 50mL, unless otherwise noted.

LvLI Batch #	Container Number	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
Blank	205			10mL	50mL	
0.2 µg/L	92	0.100				
1.0	I94	0.500				
2.0	AN	1.000				
5.0	A901	2.500				
10.0	AB	5.000				
ICV	11A	0.125				
CCV	JC	0.250				
ICB/CCB	N60					90.50L
MB1	P18	*	*	0.30		PBS150 100.00
LCI	8			0.31		LCSS150
0803L785-001	PA			0.35		100.0
002	L15			0.38		97.65
002R	C9			0.36		
002S	871	0.500	1.0	0.38		
003	LV			0.32		94.70
004	880			0.32		98.0
005	PT			0.31		99.07
006	N2			0.37		94.9
007	NB			0.33		97.38
008	HW			0.41		98.73
009	503			0.36		92.92
010	SPRT			0.37		96.98
011	S			0.32		92.6
012	154			0.31		93.1
0803L718-001	N4			0.37		R 96.17
001R	P5			0.33		

Standard:	ID	Prep Date/Time
ICAL/MS	R16072-75-07B	3/21/08 1025
ICV/CCV/LCS	US 6072-75-08A	

Reviewed By/Date: [signature] 3/21

see book # 9348 for std traceability information

Soil LCS =US Metals in soil No.3; True Value = 4.70 mg/Kg *
Catalogue #1RM-021, Lot # E021

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Water LCS Spiking Concentration: 1.0 µg/ml

ME-HgCVAA-Prep1007

Page #:

Lionville Laboratory Incorporated

MERCURY PREPARATION

Logbook # 422

Analyst: Ter
Date 3/21/08
Start Time/Temp: see page
End Time/Temp: 042

Instrument ID HG3.1
Balance #: B29 /NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 08L0050
Worksheet: HG032401
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? __ Yes NA No (If no: designate affected samples in Comments column, and initiate an SDR)

NOTE: The Inital/Final Volume for water samples = 33mL, unless otherwise noted.
The Final volume for soil samples = 50mL, unless otherwise noted.

LvL/ Batch #	Container Number	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
08031718-001S	X3	0.500	1.0	0.37	50mL	R 96.1
08031756-002	2I			0.32		90.0
002R	HH			0.37		
002S	CYD	0.500	1.0	0.32		
08031753-001	A27			0.30		100.
001R	F8			0.30		
001S	UT	0.050	10.0	0.30		
002	H5			0.30		
003	95			0.31		
004	R2			0.30		
005	OF			0.30		
006	111E			0.30		

TER 3/21/08

Standard:	ID	Prep Date/Time
ICAL/MS		
ICV/CCV/LCS	see page 042	

Reviewed By/Date: [signature] 3/26

see book # 9368 for std traceability information

Soil LCS =US Metals in soil No.3; True Value = 4.70 mg/Kg
Catalogue #1RM-021, Lot # E021

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Water LCS Spiking Concentration: 1.0 µg/ml

onville Laboratory Use Only
08031785

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

VLI

lent TNU Hanford RC-032
t. Final Proj. Sampling Date
oject# 11343-606-0019999-00
oject Contact/Phone#
onville Laboratory Project Manager O Johnson
: SW846 Del STD TAT 30Day
ite Rec'd 3/20/08 Date Due 3-23-08

	A	B	C	D	E	F	G
Refrigerator #							
#/Type Container (Liquid / Solid)	1L	1L	1L	1L	2L	1L	
Volume	120mL	120mL	60mL	120mL	125mL	125mL	
Preservatives							
ANALYSES REQUESTED (ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN)			PCB				

TRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0625H	0608H		OPCB	TPHC	418.1 TPH	ICP Metals + Hg	Hexchrom	ICRG
					S	3/18/08										
	001	J16DT6			S	3/18/08	1140							X		
	002	J16DT7			S		1145	X	X		X		X	X	X	
	003	J16DT8			S		1150	X	X		X		X	X	X	
	004	J16DT9			S		1155	X	X		X		X	X	X	
	005	J16DTV0			S		1200	X	X		X		X	X	X	
	006	J16DV1			S		1205	X	X		X		X	X	X	
	007	J16DV2			S		1210	X	X		X		X	X	X	
	008	J16DV3			S		1215	X	X		X		X	X	X	
	009	J16DV4			S		1220	X	X		X		X	X	X	
	010	J16DV5			S		1225	X	X		X		X	X	X	

Lionville Laboratory Use Only

Special Instructions:

TCL met = HSL + B, Mo, Si
NOTL

Special Instructions:
1.
2.
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Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL			
REWRITTEN			

COMPOSITE WASTE

000000036

ionville Laboratory Use Only

0803L785

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

VLI

000000037

llent TNU HANFORD

st. Final Proj. Sampling Date

roject#

roject Contact/Phone#

onville Laboratory Project Manager

S Del TAT 3 DAY

ate Rec'd 3/20/08 Date Due

Refrigerator #		A	B	C	D	E	F	G
#/Type Container	Liquid / Solid							
Volume								
Preservatives								
ANALYSES REQUESTED →		ORGANIC: VOA	ORGANIC: BNA	ORGANIC: Pest/PCB	ORGANIC: Herb			INORG: Metal / INORG: CN

ATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only													
									8625H	8081H		PCB	TPH	418.1	ICP metals	Hexchrom	ICP				
Soil	011	J16DV6			S	3/18/08	1230		X	X		X		X	X	X					
Sediment	012	J16DV7			S	3/18/08	1230		X	X		X		X	X	X					
Solid																					
Sludge																					
Water																					
Oil																					
Air																					
Drum Solids																					
Drum Liquids																					
EP/TCLP Leachate																					
Wipe																					
Other																					
Fish																					

pecial Instructions:

Special Instructions:

1.
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Relinquished by	Received by	Date	Time

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 1 of 3

Collector: T. Welch-Koelling	Company Contact: JR DEBUIGNE	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8A	Data Turnaround: 3 DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No.: RC-032
Ice Chest No.: AFS-06-004	Field Logbook No.: EFL-1174-4	COA: R120F12000	Method of Shipment: FED EX Temp 25°C
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080200		Bill of Lading/Air Bill No.: See OSPC 7904 7295 4470

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No.	Matrix *	Sample Date	Sample Time								
J16DT6	SOIL	3-18-08	1140	X							ED
J16DT7	SOIL		1145	X	X	X	X	X	X		1
J16DT8	SOIL		1150	X	X	X	X	X	X		2
J16DT9	SOIL		1155	X	X	X	X	X	X		3
J16DV0	SOIL		1200	X	X	X	X	X	X		4

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	3/18/08 1320	JRDeBuigne [signature]	3-18-08 1320
JRDeBuigne [signature]	3-18-08 1600	[signature] MStankovich	3/18/05 1600
[signature] MStankovich	3/18/05 1000	Fed Ex	
Fed Ex	3-20-08 0970	[signature]	3-20-08

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

Cooler Temp 25°C

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By: [signature]	Title: Lab	Date/Time: 3/20/08	
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time	

WCH-EE-011

000000038

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 2 of 2

Collector: T. Welch-Koelling	Company Contact: JR DEBUIGNE	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8A	Data Turnaround: 3 DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No.: RC-032
Ice Chest No.: AFS-06-001	Field Logbook No.: EFL-1174-4	COA: R120F12000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / KENNEWICK	Offsite Property No.: A080200		Bill of Lading/Air Bill No.: See OSPC 7984 ac24318

Temp 3°C

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
J16DV1 / SOIL / 3-18-08 / 1205	X	X	X	X	X	X					5.
J16DV2 / SOIL / 1210	X	X	X	X	X	X					6
J16DV3 / SOIL / 1215	X	X	X	X	X	X					7
J16DV4 / SOIL / 1220	X	X	X	X	X	X					8
J16DV5 / SOIL / 1225	X	X	X	X	X	X					9

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: Date/Time 3/18/08 1320	Received By/Stored In: JR DeBuigne JR DeBuigne	Date/Time 1320 3-18-08
Relinquished By/Removed From: JR DeBuigne JRD 3-18-08	Received By/Stored In: MStankovich 3/18/08	Date/Time 1600
Relinquished By/Removed From: WC Welch MStankovich 3/19/08	Received By/Stored In: Fed Ex	Date/Time 1500
Relinquished By/Removed From: Fed Ex 3 20 08 0940	Received By/Stored In: [illegible] 3 20 08 0940	Date/Time
Relinquished By/Removed From:	Received By/Stored In:	Date/Time
Relinquished By/Removed From:	Received By/Stored In:	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Cooler Temp 2.0°C

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By: [illegible]	Title: Lab Tech	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

/CH-EE-011

000000039

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 1 of 1

Collector T. Welch-Koelling	Company Contact JR DEBUIGNE	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code 6A	Data Turnaround 3 DAY
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No. RC-032		
Ice Chest No. AFS-06-002	Field Logbook No. EFL-1174-4	COA R120F12000	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080200		Bill of Lading/Air Bill No. See OSPC 79102564 5757	2°C	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
J16DV6 / SOIL / 3-18-08 / 1230	X	X	X	X	X	X					10
J16DV7 / SOIL / 3-18-08 / 1230	X	X	X	X	X	X					10 D

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	3/18/08 1320	JRDeBuigne [signature]	3-18-08 1320
JRDeBuigne [signature]	3-18-08 1600	[signature] MSTankovich	3/18/08 1600
[signature] MSTankovich	3/19/08 1500		Fed Ex
Fed Ex	3-20-08 0940	M. Ford	3-20-08 0940

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By [signature]	Title Lab Tech	Date/Time 3/20/08
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

000000040

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford **Date:** 3.20.08

Project/SAF/SOW/Release #:

LvLI Batch #: 0803L785 **Sample Custodian:** [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier (Fed) Ex		Airbill # 7984 0002 9318 7904 7295 4470 7910 2504 5757
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 2.0 °C 2.5 °C 3.0 °C		Cooler # AFS.06-001
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify): AFS-06-004 AFS-06-002
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 _____ Date _____

LvLI LIONVILLE LABORATORY, INC

SR-002-B.doc

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

RECEIVED APR 2008

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16DT6						
% SOLIDS	001	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	001	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	001	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	001	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	001	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	001	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	001	S	08LICS22	03/18/08	03/27/08	03/27/08
SULFATE BY IC	001	S	08LICT22	03/18/08	03/27/08	03/27/08
PH	001	S	08LPH015	03/18/08	03/28/08	03/28/08
J16DT7						
% SOLIDS	002	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	002	S	08LICT22	03/18/08	03/27/08	03/27/08
BROMIDE BY IC	002 REP	S	08LICT22	03/18/08	03/27/08	03/27/08
BROMIDE BY IC	002 MS	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	002	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	002 REP	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	002 MS	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	002	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	002 REP	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	002 MS	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	002	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	002 REP	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	002 MS	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	002	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	002 REP	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	002 MS	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	002	S	08LICS22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	002 REP	S	08LICS22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	002 MS	S	08LICS22	03/18/08	03/27/08	03/27/08
CHROMIUM VI	002	S	08LVI028	03/18/08	03/20/08	03/21/08
SULFATE BY IC	002	S	08LICT22	03/18/08	03/27/08	03/27/08
SULFATE BY IC	002 REP	S	08LICT22	03/18/08	03/27/08	03/27/08
SULFATE BY IC	002 MS	S	08LICT22	03/18/08	03/27/08	03/27/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
PH	002	S	08LPH015	03/18/08	03/28/08	03/28/08
PH	002 REP	S	08LPH015	03/18/08	03/28/08	03/28/08
PETROLEUM HYDROCARBO	002	S	08LHC011	03/18/08	03/25/08	03/25/08
J16DT8						
% SOLIDS	003	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	003	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	003	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	003	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	003	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	003	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	003	S	08LICS22	03/18/08	03/27/08	03/27/08
CHROMIUM VI	003	S	08LVI028	03/18/08	03/20/08	03/21/08
SULFATE BY IC	003	S	08LICT22	03/18/08	03/27/08	03/27/08
PH	003	S	08LPH015	03/18/08	03/28/08	03/28/08
PETROLEUM HYDROCARBO	003	S	08LHC011	03/18/08	03/25/08	03/25/08
J16DT9						
% SOLIDS	004	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	004	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	004	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	004	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	004	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	004	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	004	S	08LICS22	03/18/08	03/27/08	03/27/08
CHROMIUM VI	004	S	08LVI028	03/18/08	03/20/08	03/21/08
SULFATE BY IC	004	S	08LICT22	03/18/08	03/27/08	03/27/08
PH	004	S	08LPH015	03/18/08	03/28/08	03/28/08
PETROLEUM HYDROCARBO	004	S	08LHC011	03/18/08	03/25/08	03/25/08
J16DV0						
% SOLIDS	005	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	005	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	005	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	005	S	08LICT22	03/18/08	03/27/08	03/27/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
NITRITE BY IC	005	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	005	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	005	S	08LICS22	03/18/08	03/27/08	03/27/08
CHROMIUM VI	005	S	08LVI028	03/18/08	03/20/08	03/21/08
CHROMIUM VI	005 REP	S	08LVI028	03/18/08	03/20/08	03/21/08
CHROMIUM VI	005 MS	S	08LVI028	03/18/08	03/20/08	03/21/08
CHROMIUM VI	005 MSD	S	08LVI028	03/18/08	03/20/08	03/21/08
SULFATE BY IC	005	S	08LICT22	03/18/08	03/27/08	03/27/08
PH	005	S	08LPH015	03/18/08	03/28/08	03/28/08
PETROLEUM HYDROCARBO	005	S	08LHC011	03/18/08	03/25/08	03/25/08
J16DV1						
% SOLIDS	006	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	006	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	006	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	006	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	006	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	006	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	006	S	08LICS22	03/18/08	03/27/08	03/27/08
CHROMIUM VI	006	S	08LVI028	03/18/08	03/20/08	03/21/08
SULFATE BY IC	006	S	08LICT22	03/18/08	03/27/08	03/27/08
PH	006	S	08LPH015	03/18/08	03/28/08	03/28/08
PETROLEUM HYDROCARBO	006	S	08LHC011	03/18/08	03/25/08	03/25/08
J16DV2						
% SOLIDS	007	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	007	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	007	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	007	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	007	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	007	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	007	S	08LICS22	03/18/08	03/27/08	03/27/08
CHROMIUM VI	007	S	08LVI028	03/18/08	03/20/08	03/21/08
SULFATE BY IC	007	S	08LICT22	03/18/08	03/27/08	03/27/08
PH	007	S	08LPH015	03/18/08	03/28/08	03/28/08
PETROLEUM HYDROCARBO	007	S	08LHC011	03/18/08	03/25/08	03/25/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16DV3						
% SOLIDS	008	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	008	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	008	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	008	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	008	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	008	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	008	S	08LICS22	03/18/08	03/27/08	03/27/08
CHROMIUM VI	008	S	08LVI028	03/18/08	03/20/08	03/21/08
SULFATE BY IC	008	S	08LICT22	03/18/08	03/27/08	03/27/08
PH	008	S	08LPH015	03/18/08	03/28/08	03/28/08
PETROLEUM HYDROCARBO	008	S	08LHC011	03/18/08	03/25/08	03/25/08
J16DV4						
% SOLIDS	009	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	009	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	009	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	009	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	009	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	009	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	009	S	08LICS22	03/18/08	03/27/08	03/27/08
CHROMIUM VI	009	S	08LVI028	03/18/08	03/20/08	03/21/08
SULFATE BY IC	009	S	08LICT22	03/18/08	03/27/08	03/27/08
PH	009	S	08LPH015	03/18/08	03/28/08	03/28/08
PETROLEUM HYDROCARBO	009	S	08LHC011	03/18/08	03/25/08	03/25/08
J16DV5						
% SOLIDS	010	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	010	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	010	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	010	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	010	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	010	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	010	S	08LICS22	03/18/08	03/27/08	03/27/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM VI	010	S	08LVI028	03/18/08	03/20/08	03/21/08
SULFATE BY IC	010	S	08LICT22	03/18/08	03/27/08	03/27/08
PH	010	S	08LPH015	03/18/08	03/28/08	03/28/08
PETROLEUM HYDROCARBO	010	S	08LHC011	03/18/08	03/25/08	03/25/08
J16DV6						
% SOLIDS	011	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	011	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	011	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	011	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	011	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	011	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	011	S	08LICS22	03/18/08	03/27/08	03/27/08
CHROMIUM VI	011	S	08LVI028	03/18/08	03/20/08	03/21/08
SULFATE BY IC	011	S	08LICT22	03/18/08	03/27/08	03/27/08
PH	011	S	08LPH015	03/18/08	03/28/08	03/28/08
PETROLEUM HYDROCARBO	011	S	08LHC011	03/18/08	03/25/08	03/25/08
J16DV7						
% SOLIDS	012	S	08L%S035	03/18/08	03/20/08	03/20/08
% SOLIDS	012 REP	S	08L%S035	03/18/08	03/20/08	03/20/08
BROMIDE BY IC	012	S	08LICT22	03/18/08	03/27/08	03/27/08
CHLORIDE BY IC	012	S	08LICT22	03/18/08	03/27/08	03/27/08
FLUORIDE BY IC	012	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRITE BY IC	012	S	08LICT22	03/18/08	03/27/08	03/27/08
NITRATE BY IC	012	S	08LICT22	03/18/08	03/27/08	03/27/08
PHOSPHATE BY IC	012	S	08LICS22	03/18/08	03/27/08	03/27/08
CHROMIUM VI	012	S	08LVI028	03/18/08	03/20/08	03/21/08
SULFATE BY IC	012	S	08LICT22	03/18/08	03/27/08	03/27/08
PH	012	S	08LPH015	03/18/08	03/28/08	03/28/08
PETROLEUM HYDROCARBO	012	S	08LHC011	03/18/08	03/25/08	03/25/08
PETROLEUM HYDROCARBO	012 REP	S	08LHC011	03/18/08	03/25/08	03/25/08
PETROLEUM HYDROCARBO	012 MS	S	08LHC011	03/18/08	03/25/08	03/25/08

LAB QC:

BROMIDE BY IC	MB1	S	08LICT22	N/A	03/27/08	03/28/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1155

DATE RECEIVED: 03/20/08 LVL LOT # :0803L785

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BROMIDE BY IC	MB1 BS	S	08LICT22	N/A	03/27/08	03/28/08
CHLORIDE BY IC	MB1	S	08LICT22	N/A	03/27/08	03/28/08
CHLORIDE BY IC	MB1 BS	S	08LICT22	N/A	03/27/08	03/28/08
FLUORIDE BY IC	MB1	S	08LICT22	N/A	03/27/08	03/28/08
FLUORIDE BY IC	MB1 BS	S	08LICT22	N/A	03/27/08	03/28/08
NITRITE BY IC	MB1	S	08LICT22	N/A	03/27/08	03/28/08
NITRITE BY IC	MB1 BS	S	08LICT22	N/A	03/27/08	03/28/08
NITRATE BY IC	MB1	S	08LICT22	N/A	03/27/08	03/28/08
NITRATE BY IC	MB1 BS	S	08LICT22	N/A	03/27/08	03/28/08
PHOSPHATE BY IC	MB1	S	08LICS22	N/A	03/26/08	03/26/08
PHOSPHATE BY IC	MB1 BS	S	08LICS22	N/A	03/26/08	03/26/08
SULFATE BY IC	MB1	S	08LICT22	N/A	03/27/08	03/28/08
SULFATE BY IC	MB1 BS	S	08LICT22	N/A	03/27/08	03/28/08
CHROMIUM VI	MB1	S	08LVI028	N/A	03/20/08	03/21/08
CHROMIUM VI	MB1 BS	S	08LVI028	N/A	03/20/08	03/21/08
CHROMIUM VI	MB1 BSD	S	08LVI028	N/A	03/20/08	03/21/08
PETROLEUM HYDROCARBO	MB1	S	08LHC011	N/A	03/25/08	03/25/08
PETROLEUM HYDROCARBO	MB1 BS	S	08LHC011	N/A	03/25/08	03/25/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-032 K1155
LVL#: 0803L785

W.O.#: 11343-606-001-9999-00
Date Received: 03-20-08

INORGANIC NARRATIVE

1. This narrative covers the analyses of 12 soil samples.

2. The samples were 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.

4. The results presented in this report are derived from samples that met LvLI's sample acceptance policy.

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 with the exception MS recovery for Phosphate at 129.3% that may be attributed to sample inhomogeneity.

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

4/10/08
Date

njp\i03-785

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 24 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(mod.)	✓ EPA 418.1 (mod)
pH, Soil		✓ 9045~~C~~D (aqueous)	
Sulfide, Reactive		__ Section 7.3/9030B	
Sulfide		__ 9030B(mod)	
Specific Gravity	__ D1429-76C/	__ D5057-90	
Sulfur, Total		__ 9056	
Synthetic Preparation Leach		__ 1312	
Paint Filter		__ 9095A	

Other: Bromide, Chloride, Fluoride, } **Method:** EPA 300.0

Other: Nitrite, Nitrate, Phosphate, Sulfate } **Method**

L-WI-034/B-01/01

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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 04/04/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J16DT6	% Solids	100		%	0.01	1.0
		Bromide by IC	2.4	u	MG/KG	2.4	1.0
		Chloride by IC	2.4	u	MG/KG	2.4	1.0
		Fluoride by IC	2.4	u	MG/KG	2.4	1.0
		Nitrite by IC	2.39	u	MG/KG	2.39	1.0
		Nitrate by IC	2.39	u	MG/KG	2.39	1.0
		Phosphate by IC	2.4	u	MG/KG	2.4	1.0
		Sulfate by IC	2.4	u	MG/KG	2.4	1.0
		pH	7.0		SOIL PH	0.01	1.0
-002	J16DT7	% Solids	97.6		%	0.01	1.0
		Bromide by IC	2.4	u	MG/KG	2.4	1.0
		Chloride by IC	3.5		MG/KG	2.4	1.0
		Fluoride by IC	2.4	u	MG/KG	2.4	1.0
		Nitrite by IC	2.40	u	MG/KG	2.40	1.0
		Nitrate by IC	3.53		MG/KG	2.40	1.0
		Phosphate by IC	2.4	u	MG/KG	2.4	1.0
		Chromium VI	0.21		MG/KG	0.20	1.0
		Sulfate by IC	3.9		MG/KG	2.4	1.0
		pH	8.5		SOIL PH	0.01	1.0
		Petroleum Hydrocarbons	141	u	MG/KG	141	1.0
-003	J16DT8	% Solids	94.7		%	0.01	1.0
		Bromide by IC	2.4	u	MG/KG	2.4	1.0
		Chloride by IC	2.4	u	MG/KG	2.4	1.0
		Fluoride by IC	2.4	u	MG/KG	2.4	1.0
		Nitrite by IC	2.36	u	MG/KG	2.36	1.0
		Nitrate by IC	12.2		MG/KG	2.36	1.0
		Phosphate by IC	2.4	u	MG/KG	2.4	1.0
		Chromium VI	0.21	u	MG/KG	0.21	1.0
		Sulfate by IC	9.6		MG/KG	2.4	1.0
		pH	8.4		SOIL PH	0.01	1.0
		Petroleum Hydrocarbons	140	u	MG/KG	140	1.0
-004	J16DT9	% Solids	98.0		%	0.01	1.0
		Bromide by IC	2.2	u	MG/KG	2.2	1.0
		Chloride by IC	2.2	u	MG/KG	2.2	1.0
		Fluoride by IC	2.2	u	MG/KG	2.2	1.0
		Nitrite by IC	2.20	u	MG/KG	2.20	1.0
		Nitrate by IC	2.20	u	MG/KG	2.20	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/04/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J16DT9	Phosphate by IC	2.2	u	MG/KG	2.2	1.0
		Chromium VI	0.30		MG/KG	0.20	1.0
		Sulfate by IC	2.2	u	MG/KG	2.2	1.0
		pH	8.9		SOIL PH	0.01	1.0
		Petroleum Hydrocarbons	133	u	MG/KG	133	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/04/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	J16DV0	% Solids	99.1		%	0.01	1.0
		Bromide by IC	2.2	u	MG/KG	2.2	1.0
		Chloride by IC	2.2	u	MG/KG	2.2	1.0
		Fluoride by IC	2.2	u	MG/KG	2.2	1.0
		Nitrite by IC	2.24	u	MG/KG	2.24	1.0
		Nitrate by IC	2.24	u	MG/KG	2.24	1.0
		Phosphate by IC	2.2	u	MG/KG	2.2	1.0
		Chromium VI	0.20	u	MG/KG	0.20	1.0
		Sulfate by IC	4.0		MG/KG	2.2	1.0
		pH	9.0		SOIL PH	0.01	1.0
		Petroleum Hydrocarbons	134	u	MG/KG	134	1.0
-006	J16DV1	% Solids	94.9		%	0.01	1.0
		Bromide by IC	2.5	u	MG/KG	2.5	1.0
		Chloride by IC	2.5	u	MG/KG	2.5	1.0
		Fluoride by IC	2.5	u	MG/KG	2.5	1.0
		Nitrite by IC	2.47	u	MG/KG	2.47	1.0
		Nitrate by IC	2.47	u	MG/KG	2.47	1.0
		Phosphate by IC	2.5	u	MG/KG	2.5	1.0
		Chromium VI	0.21	u	MG/KG	0.21	1.0
		Sulfate by IC	5.4		MG/KG	2.5	1.0
		pH	9.0		SOIL PH	0.01	1.0
		Petroleum Hydrocarbons	138	u	MG/KG	138	1.0
-007	J16DV2	% Solids	97.4		%	0.01	1.0
		Bromide by IC	2.4	u	MG/KG	2.4	1.0
		Chloride by IC	2.4	u	MG/KG	2.4	1.0
		Fluoride by IC	2.4	u	MG/KG	2.4	1.0
		Nitrite by IC	2.36	u	MG/KG	2.36	1.0
		Nitrate by IC	2.36	u	MG/KG	2.36	1.0
		Phosphate by IC	2.4	u	MG/KG	2.4	1.0
		Chromium VI	0.20	u	MG/KG	0.20	1.0
		Sulfate by IC	3.3		MG/KG	2.4	1.0
		pH	8.9		SOIL PH	0.01	1.0
		Petroleum Hydrocarbons	134	u	MG/KG	134	1.0
-008	J16DV3	% Solids	98.7		%	0.01	1.0
		Bromide by IC	2.5	u	MG/KG	2.5	1.0
		Chloride by IC	2.5	u	MG/KG	2.5	1.0
		Fluoride by IC	2.5	u	MG/KG	2.5	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/04/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-008	J16DV3	Nitrite by IC	2.48	u	MG/KG	2.48	1.0
		Nitrate by IC	2.86		MG/KG	2.48	1.0
		Phosphate by IC	2.5	u	MG/KG	2.5	1.0
		Chromium VI	0.20	u	MG/KG	0.20	1.0
		Sulfate by IC	2.5	u	MG/KG	2.5	1.0
		pH	8.9		SOIL PH	0.01	1.0
		Petroleum Hydrocarbons	134	u	MG/KG	134	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/04/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-009	J16DV4	% Solids	92.9		%	0.01	1.0
		Bromide by IC	2.6	u	MG/KG	2.6	1.0
		Chloride by IC	7.6		MG/KG	2.6	1.0
		Fluoride by IC	2.6	u	MG/KG	2.6	1.0
		Nitrite by IC	2.57	u	MG/KG	2.57	1.0
		Nitrate by IC	2.71		MG/KG	2.57	1.0
		Phosphate by IC	2.6	u	MG/KG	2.6	1.0
		Chromium VI	0.22	u	MG/KG	0.22	1.0
		Sulfate by IC	13.4		MG/KG	2.6	1.0
		pH	9.0		SOIL PH	0.01	1.0
		Petroleum Hydrocarbons	144	u	MG/KG	144	1.0
-010	J16DV5	% Solids	97.0		%	0.01	1.0
		Bromide by IC	2.6	u	MG/KG	2.6	1.0
		Chloride by IC	2.6	u	MG/KG	2.6	1.0
		Fluoride by IC	2.6	u	MG/KG	2.6	1.0
		Nitrite by IC	2.55	u	MG/KG	2.55	1.0
		Nitrate by IC	3.54		MG/KG	2.55	1.0
		Phosphate by IC	2.6	u	MG/KG	2.6	1.0
		Chromium VI	0.24		MG/KG	0.21	1.0
		Sulfate by IC	5.3		MG/KG	2.6	1.0
		pH	7.6		SOIL PH	0.01	1.0
		Petroleum Hydrocarbons	141	u	MG/KG	141	1.0
-011	J16DV6	% Solids	92.7		%	0.01	1.0
		Bromide by IC	2.7	u	MG/KG	2.7	1.0
		Chloride by IC	2.7	u	MG/KG	2.7	1.0
		Fluoride by IC	2.7	u	MG/KG	2.7	1.0
		Nitrite by IC	2.68	u	MG/KG	2.68	1.0
		Nitrate by IC	25.3		MG/KG	2.68	1.0
		Phosphate by IC	2.7	u	MG/KG	2.7	1.0
		Chromium VI	0.22	u	MG/KG	0.22	1.0
		Sulfate by IC	5.5		MG/KG	2.7	1.0
		pH	7.2		SOIL PH	0.01	1.0
		Petroleum Hydrocarbons	143	u	MG/KG	143	1.0
-012	J16DV7	% Solids	93.1		%	0.01	1.0
		Bromide by IC	2.6	u	MG/KG	2.6	1.0
		Chloride by IC	2.6	u	MG/KG	2.6	1.0
		Fluoride by IC	2.6	u	MG/KG	2.6	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/04/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-012	J16DV7	Nitrite by IC	2.64 u	MG/KG	2.64	1.0
		Nitrate by IC	19.8	MG/KG	2.64	1.0
		Phosphate by IC	2.6 u	MG/KG	2.6	1.0
		Chromium VI	0.22 u	MG/KG	0.22	1.0
		Sulfate by IC	4.3	MG/KG	2.6	1.0
		pH	7.6	SOIL PH	0.01	1.0
		Petroleum Hydrocarbons	141 u	MG/KG	141	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/04/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	08LICT22-MB1	Bromide by IC	2.5	u	MG/KG	2.5	1.0
		Chloride by IC	2.5	u	MG/KG	2.5	1.0
		Fluoride by IC	2.5	u	MG/KG	2.5	1.0
		Nitrite by IC	2.48	u	MG/KG	2.48	1.0
		Nitrate by IC	2.48	u	MG/KG	2.48	1.0
		Sulfate by IC	2.5	u	MG/KG	2.5	1.0
BLANK10	08LICS22-MB1	Bromide by IC	2.5	u	MG/KG	2.5	1.0
		Chloride by IC	2.5	u	MG/KG	2.5	1.0
		Fluoride by IC	2.5	u	MG/KG	2.5	1.0
		Nitrite by IC	2.45	u	MG/KG	2.45	1.0
		Nitrate by IC	2.45	u	MG/KG	2.45	1.0
		Phosphate by IC	2.5	u	MG/KG	2.5	1.0
		Sulfate by IC	2.5	u	MG/KG	2.5	1.0
BLANK10	08LVI028-MB1	Chromium VI	0.20	u	MG/KG	0.20	1.0
BLANK10	08LHC011-MB1	Petroleum Hydrocarbons	133	u	MG/KG	133	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 04/04/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	J16DT7	Bromide by IC	50.6	0.0	43.6	116.2	1.0
		Chloride by IC	53.8	3.5	43.6	115.3	1.0
		Fluoride by IC	51.4	0.43	43.6	117.0	1.0
		Nitrite by IC	51.6	2.40u	43.6	118.3	1.0
		Nitrate by IC	54.3	3.53	43.6	116.5	1.0
		Phosphate by IC	56.4	2.4 u	43.6	129.3	1.0
		Sulfate by IC	55.6	3.9	43.6	118.6	1.0
-005	J16DV0	Soluble Chromium VI	4.0	0.20u	4.0	98.4	1.0
		Insoluble Chromium VI	1250	0.20u	1230	101.8	100
-012	J16DV7	Petroleum Hydrocarbons	498	5.0	597	82.6	1.0
BLANK10	08LICT22-MB1	Bromide by IC	73.0	2.5 u	65.8	110.9	1.0
		Chloride by IC	69.9	2.5 u	65.8	106.3	1.0
		Fluoride by IC	70.0	2.5 u	65.8	106.3	1.0
		Nitrite by IC	71.8	2.48u	65.8	109.1	1.0
		Nitrate by IC	72.6	2.48u	65.8	110.4	1.0
		Sulfate by IC	71.5	2.5 u	65.8	108.7	1.0
BLANK10	08LICS22-MB1	Bromide by IC	60.8	2.5 u	62.7	97.0	1.0
		Chloride by IC	60.4	2.5 u	62.7	96.4	1.0
		Fluoride by IC	59.8	2.5 u	62.7	95.4	1.0
		Nitrite by IC	60.8	2.45u	62.7	97.0	1.0
		Nitrate by IC	60.0	2.45u	62.7	95.6	1.0
		Phosphate by IC	59.8	2.5 u	62.7	95.4	1.0
		Sulfate by IC	61.8	2.5 u	62.7	98.6	1.0
BLANK10	08LVI028-MB1	Soluble Chromium VI	3.9	0.20u	4.0	96.8	1.0
		Insoluble Chromium VI	1140	0.20u	1100	103.9	100
BLANK10	08LHC011-MB1	Petroleum Hydrocarbons	453	133 u	552	82.1	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 04/04/08

CLIENT: TNUHANFORD RC-032 K1155 LVL LOT #: 0803L785

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-002REP	J16DT7	Bromide by IC	2.4 u	2.2 u	NC	1.0
		Chloride by IC	3.5	3.7	6.7	1.0
		Fluoride by IC	2.4 u	2.2 u	NC	1.0
		Nitrite by IC	2.40u	2.24u	NC	1.0
		Nitrate by IC	3.53	3.47	1.7	1.0
		Phosphate by IC	2.4 u	2.2 u	NC	1.0
		Sulfate by IC	3.9	3.7	4.1	1.0
		pH	8.5	8.5	0.2	1.0
-005REP	J16DV0	Chromium VI	0.20u	0.20u	NC	1.0
-012REP	J16DV7	% Solids	93.1	93.2	0.14	1.0
		Petroleum Hydrocarbons	141 u	143 u	NC	1.0

onville Laboratory Use Only
0803L785

Custody Transfer Record/Lab Work Request

Page 1 of 2

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

000000019

ient TNU Hanford RC-032
t. Final Proj. Sampling Date
ojects 11343-606-001-9999-00
oject Contact/Phone#
nville Laboratory Project Manager O Johnson
SW846 Del STD TAT 30DAY
te Rec'd 3/20/08 Date Due 3-23-08

	A	B	C	D	EF	G
Refrigerator #						
#/Type Container (Liquid / Solid)	1L	1L	1L	1L	2L	1L
Volume	120mL	120mL	60mL	120mL	125mL	125mL
Preservatives						
ANALYSES REQUESTED (ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN)			PCB			

Lionville Laboratory Use Only

MATRIX CODES: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP Leachate, Wipe, Other, Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0625H	0608H		PCB	TPHC	418.1 TPH	ICP Metals + Hg	Hexchrom	ICRG	IC①	IP4			
	001	J16DT6			S	3/18/08	1140							X			X	X			
	002	J16DT7			S		1145	X	X		X		X	X	X		X	X			
	003	J16DT8			S		1150	X	X		X		X	X	X		X	X			
	004	J16DT9			S		1155	X	X		X		X	X	X		X	X			
	005	J16DV0			S		1200	X	X		X		X	X	X		X	X			
	006	J16DV1			S		1205	X	X		X		X	X	X		X	X			
	007	J16DV2			S		1210	X	X		X		X	X	X		X	X			
	008	J16DV3			S		1215	X	X		X		X	X	X		X	X			
	009	J16DV4			S		1220	X	X		X		X	X	X		X	X			
	010	J16DV5			S	—	1225	X	X		X		X	X	X		X	X			

Special Instructions:

TCL met = HSL + B, Mo, Si
NOTL
IC① = ICBR, ICCL, ICFL, ICSO4, ICPO4, ICNO2, ICNO3
3-27-08

Special Instructions:

3-27-08 1. per Client add anions and Ph to all samples.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Fedex	[signature]	3/18/08	0940

Relinquished by	Received by	Date	Time

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

Lionville Laboratory Use Only

S803L785

Custody Transfer Record/Lab Work Request

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU Hanford

Est. Final Proj. Sampling Date: 1 Day

Project#: 9

Project Contact/Phone#:

Lionville Laboratory Project Manager:

Del: TAT: 3 Day

Date Rec'd: 3/20/08 Date Due:

		A	B	C	D	E	F	G
Refrigerator #								
#/Type Container	Liquid / Solid							
Volume								
Preservatives								
ANALYSES REQUESTED		ORGANIC: VOA	BNA	Pest/PCB	Herb			INORG: Metal / CN

Lionville Laboratory Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected		8625H	8608H		PCB	TPH	418.1	ICP Metals	Hexchrom	ICR6	IC(1)	IPH		
011	J16DV6			S	3/18/08	1230		X	X		X		X	X	X		X	X		
012	J16DV7			S	3/18/08	1230		X	X		X		X	X	X		X	X		

Matrix Codes: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP Leachate, Wipe, Other, Fish

Special Instructions:

Special Instructions:

1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
Fedex	[signature]	3/20/08	0940

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000020

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 1 of 1

Collector T. Welch-Koelling	Company Contact JR DEBUIGNE	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code 8A	Data Turnaround 3DAY
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No. RC-032		
Ice Chest No. AFS-06-004	Field Logbook No. EFL-1174-4	COA R120F12000	Method of Shipment FED EX	Temp 25°C	
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080200		Bill of Lading/Air Bill No. See OSPC 7904729544 70		

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
J16DT6 / SOIL / 3-18-08 / 1140	X										ED
J16DT7 / SOIL / ↓ / 1145	X	X	X	X	X	X					1
J16DT8 / SOIL / ↓ / 1150	X	X	X	X	X	X					2
J16DT9 / SOIL / ↓ / 1155	X	X	X	X	X	X					3
J16DV0 / SOIL / ↓ / 1200	X	X	X	X	X	X					4

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: T. Welch-Koelling, J. Schwerin — Date/Time: 3/18/08 1320	Received By/Stored In: JR DeBuigne — Date/Time: 1320 3-18-08	
Relinquished By/Removed From: JR DeBuigne — Date/Time: 1600 3-18-08	Received By/Stored In: M Stankovich — Date/Time: 1600 3/18/05	
Relinquished By/Removed From: T. Welch — Date/Time: 1000 M Stankovich 3/18/05	Received By/Stored In: Fed Ex — Date/Time:	
Relinquished By/Removed From: Fed Ex — Date/Time: 3-20-08 0970	Received By/Stored In: D. Smith — Date/Time: 3-20-08	
Relinquished By/Removed From: — Date/Time:	Received By/Stored In: — Date/Time:	
Relinquished By/Removed From: — Date/Time:	Received By/Stored In: — Date/Time:	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Cooler Temp 2.5°C

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By: [signature]	Title: LAB	Date/Time: 3/20/08
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

000000021

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 2 of 1

Collector T. Welch-Koelling	Company Contact JR DEBUIGNE	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code 8A	Data Turnaround 3 DAY
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No. RC-032		
Ice Chest No. AFS-06-001	Field Logbook No. EFL-1174-4	COA R120F12000	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES / HONVILLE	Offsite Property No. A080200		Bill of Lading/Air Bill No. See OSPC 7984 ac29318	Temp 3°C	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
J16DV1 / SOIL / 3-18-08 / 1205	X	X	X	X	X	X					5
J16DV2 / SOIL / 1210	X	X	X	X	X	X					6
J16DV3 / SOIL / 1215	X	X	X	X	X	X					7
J16DV4 / SOIL / 1220	X	X	X	X	X	X					8
J16DV5 / SOIL / 1225	X	X	X	X	X	X					9

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 3/18/08 1320	Received By/Stored In JR DeBuigne JR DeBuigne	Date/Time 1320 3-18-08
Relinquished By/Removed From JR DeBuigne JRD	Date/Time 1600 3-18-08	Received By/Stored In M Stankovich	Date/Time 1600 3/18/08
Relinquished By/Removed From WC M Stankovich	Date/Time 1500 3/19/08	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From Fed Ex	Date/Time 3 20 08 0940	Received By/Stored In	Date/Time 3 20 08 0940
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Cooler Temp 2.0°C

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title Lab Tech		Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method		Disposed By	Date/Time

VCH-EE-011

000000022

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-196	Page 1 of 1

Collector T. Welch-Koelling	Company Contact JR DEBUIGNE	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code 8A	Data Turnaround 3 DAY
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 120-F-1 Glass Dump Verification phase 2 (NW Excavation)		SAF No. RC-032		
Ice Chest No. AFS-06-002	Field Logbook No. EFL-1174-4	COA R120F12000	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080200		Bill of Lading/Air Bill No. See OSPC 7910250457 57	2°C	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	P	P	aG	aG	aG	aG					
No. of Container(s)	2	1	1	1	1	1					
Volume	125mL	125mL	60mL	120mL	120mL	120mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1					
Sample No. / Matrix * / Sample Date / Sample Time											
I16DV6 / SOIL / 3-18-08 / 1230	X	X	X	X	X	X					10
I16DV7 / SOIL / 3-18-08 / 1230	X	X	X	X	X	X					10 D

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
T. Welch-Koelling	3/18/08 1320	JR DeBuigne	3-18-08 1320
JR DeBuigne	3-18-08 1600	MSTANKOVICH	3/18/08 1600
MSTANKOVICH	3/19/08 1500	Fed Ex	
Fed Ex	3-20-08 0940	M. Mad	3-20-08 0940

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time 3/20/08
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

VCH-EE-011

00000023

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford **Date:** 3.20.08

Project/SAF/SOW/Release #:

LvLI Batch #: 0803L785 **Sample Custodian:** [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier (Fed) Ex		Airbill # 7984 0002 9318 7904 7295 4470 7910 2504 5757
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 2.0 2.5 3.0 °C		Cooler # AFS-06-001
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify): AFS-06-004 AFS-06-002
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 _____ Date _____

LvLI LIONVILLE LABORATORY INC

SR-002-B.doc