0079433

RECEIVED AUGUST 15, 2008

LvLI

LIONVILLE LABORATORY INC.

Mr. Steve Trent
Fluor Hanford Inc.
825 Jadwin Ave.
Richland, WA 99352

Subject: Contract No. 630
Analytical Data Package

Dear Mr. Trent:

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

LvLI Batch #	0807L381
SDG #	H3785
SAF #	F08-101
Date Received	7/2/08
# Samples	1
Matrix	SOIL
Volatiles	
Semivolatiles	X
Pest/PCB	
DRO/GRO/KRO	
Herbicides	
GC Alcohol	
Metals	
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

RECEIVED
DEC 05 2008
EDMC

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

SEMIVOLATILES

1A

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD F08-101 H3785

DATE RECEIVED: 07/02/08 LVL LOT # :0807L381

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1V528	001	S	08LE0325	06/30/08	07/09/08	08/03/08
B1V528	001 MS	S	08LE0325	06/30/08	07/09/08	08/03/08
B1V528	001 MSD	S	08LE0325	06/30/08	07/09/08	08/03/08

LAB QC:

SBLKWD	MB1	S	08LE0325	N/A	07/09/08	08/03/08
SBLKWD	MB1 BS	S	08LE0325	N/A	07/09/08	08/03/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD F08-101
LVL #: 0807L381
SDG/SAF # H3785 / F08-101

W.O. #: 11343-606-001-9999-00
Date Received: 07-02-2008

SEMIVOLATILE

One (1) soil sample was collected on 06-30-2008.

The sample and its associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3540C on 07-09-2008 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 08-03-2008.

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. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
2. Samples were extracted and analyzed within holding time.
3. Non-target compounds were detected in these samples.
4. All surrogate recoveries were within acceptance criteria.
5. All matrix spike recoveries were within acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. The method blank contained the common laboratory contaminant Bis (2-Ethylhexy) phthalate and Di-n-butylphthalate at levels less than the CRQL.
8. All initial calibrations associated with this data set were within acceptance criteria.
9. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

r:\group\data\2008\bna\tnu\0807-381cs1.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.

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LIONVILLE LABORATORY INC.

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

11. 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").

12. 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.

13. 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

8/11/08
Date

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, Appendix IX List

Report Date: 08/06/08 15:38

RFW Batch Number: 0807L381 Client: TNUHANFORD F08-101 H3785 Work Order: 11343606001 Page: 1a

	Cust ID:	B1V528		B1V528		B1V528		SBLKWD		SBLKWD BS	
Sample Information	RFW#:	001		001 MS		001 MSD		08LE0325-MB1		08LE0325-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	70	%	75	%	70	%	65	%	81	%
	2-Fluorobiphenyl	73	%	87	%	78	%	70	%	84	%
	Terphenyl-d14	88	%	100	%	99	%	74	%	87	%
	Phenol-d5	65	%	90	%	81	%	54	%	83	%
	2-Fluorophenol	67	%	80	%	73	%	64	%	82	%
	2,4,6-Tribromophenol	49	%	66	%	83	%	62	%	80	%
Phenol		400	U	93	%	85	%	330	U	80	%
bis(2-Chloroethyl)ether		400	U	78	%	76	%	330	U	70	%
2-Chlorophenol		400	U	86	%	78	%	330	U	79	%
1,3-Dichlorobenzene		400	U	66	%	61	%	330	U	77	%
1,4-Dichlorobenzene		400	U	65	%	63	%	330	U	77	%
1,2-Dichlorobenzene		400	U	70	%	66	%	330	U	78	%
2-Methylphenol		400	U	95	%	86	%	330	U	78	%
2,2'-oxybis(1-Chloropropane)		400	U	81	%	79	%	330	U	75	%
3/4-Methylphenol		400	U	91	%	85	%	330	U	78	%
N-Nitroso-di-n-propylamine		400	U	88	%	83	%	330	U	80	%
Hexachloroethane		400	U	63	%	58	%	330	U	71	%
Nitrobenzene		400	U	80	%	73	%	330	U	75	%
Isophorone		400	U	79	%	76	%	330	U	77	%
2-Nitrophenol		400	U	83	%	79	%	330	U	80	%
2,4-Dimethylphenol		400	U	75	%	75	%	330	U	72	%
bis(2-Chloroethoxy)methane		400	U	85	%	82	%	330	U	79	%
2,4-Dichlorophenol		400	U	89	%	86	%	330	U	83	%
1,2,4-Trichlorobenzene		400	U	74	%	71	%	330	U	80	%
Naphthalene		400	U	76	%	70	%	330	U	80	%
4-Chloroaniline		1000	U	68	%	64	%	830	U	64	%
Hexachlorobutadiene		400	U	76	%	72	%	330	U	85	%
4-Chloro-3-methylphenol		400	U	98	%	90	%	330	U	89	%
2-Methylnaphthalene		400	U	85	%	79	%	330	U	83	%
Hexachlorocyclopentadiene		400	U	45	%	50	%	330	U	62	%
2,4,6-Trichlorophenol		400	U	65	%	83	%	330	U	77	%
2,4,5-Trichlorophenol		400	U	84	%	93	%	330	U	85	%

*= Outside of EPA CLP QC limits.

Cust ID:	B1V528		B1V528		B1V528		SBLKWD		SBLKWD BS	
RFW#:	001		001 MS		001 MSD		08LE0325-MB1		08LE0325-MB1	
2-Chloronaphthalene	400	U	86	%	80	%	330	U	77	%
2-Nitroaniline	1000	U	106	%	100	%	830	U	86	%
Dimethylphthalate	400	U	94	%	88	%	330	U	81	%
Acenaphthylene	400	U	89	%	86	%	330	U	81	%
2,6-Dinitrotoluene	400	U	97	%	94	%	330	U	84	%
3-Nitroaniline	1000	U	88	%	81	%	830	U	83	%
Acenaphthene	400	U	88	%	86	%	330	U	75	%
2,4-Dinitrophenol	2000	U	116	%	109	%	1700	U	108	%
4-Nitrophenol	1000	U	53	%	78	%	830	U	87	%
Dibenzofuran	400	U	90	%	86	%	330	U	80	%
2,4-Dinitrotoluene	400	U	95	%	92	%	330	U	86	%
Diethylphthalate	400	U	94	%	90	%	330	U	83	%
4-Chlorophenyl-phenylether	400	U	92	%	89	%	330	U	83	%
Fluorene	400	U	92	%	90	%	330	U	80	%
4-Nitroaniline	1000	U	81	%	83	%	830	U	85	%
4,6-Dinitro-2-methylphenol	1000	U	99	%	105	%	830	U	103	%
N-Nitrosodiphenylamine (1)	400	U	75	%	78	%	330	U	72	%
4-Bromophenyl-phenylether	400	U	83	%	87	%	330	U	74	%
Hexachlorobenzene	400	U	93	%	96	%	330	U	85	%
Pentachlorophenol	1000	U	97	%	109	%	830	U	91	%
Phenanthrene	400	U	90	%	91	%	330	U	82	%
Anthracene	400	U	93	%	91	%	330	U	82	%
Carbazole	400	U	88	%	91	%	330	U	83	%
Di-n-butylphthalate	22	JB	93	%	92	%	18	J	84	%
Fluoranthene	400	U	95	%	96	%	330	U	87	%
Pyrene	400	U	88	%	91	%	330	U	74	%
Butylbenzylphthalate	400	U	96	%	97	%	330	U	84	%
3,3-Dichlorobenzidine	400	U	23	%	35	%	330	U	75	%
Benzo(a)anthracene	400	U	92	%	95	%	330	U	82	%
Chrysene	400	U	94	%	96	%	330	U	82	%
bis(2-Ethylhexyl)phthalate	750	B	82	%	115	%	49	J	86	%
Di-n-octyl phthalate	400	U	99	%	104	%	330	U	91	%
Benzo(b)fluoranthene	400	U	98	%	99	%	330	U	89	%
Benzo(k)fluoranthene	400	U	95	%	98	%	330	U	84	%
Benzo(a)pyrene	400	U	93	%	96	%	330	U	83	%
Indeno(1,2,3-cd)pyrene	400	U	91	%	96	%	330	U	82	%
Dibenz(a,h)anthracene	400	U	94	%	103	%	330	U	86	%
Benzo(g,h,i)perylene	400	U	92	%	99	%	330	U	83	%
Dimethoate	400	U	400	U	400	U	330	U	330	U
Phorate	400	U	400	U	400	U	330	U	330	U

*= Outside of EPA CLP QC limits.

Cust ID:	B1V528		B1V528		B1V528		SBLKWD		SBLKWD BS	
RFW#:	001		001 MS		001 MSD		08LE0325-MB1		08LE0325-MB1	
2,3,4,6-Tetrachlorophenol	400	U	79	%	80	%	330	U	59	%
Tributylphosphate	400	U	400	U	400	U	330	U	330	U

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B1V528

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

Client: TNUHANFORD F08-101 H3785

Matrix: (soil/water) SOIL

Lab Sample ID: 0807L381-001

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

Lab File ID: C080309

Level: (low/med) LOW

Date Received: 07/02/08

% Moisture: 17 decanted: (Y/N)__

Date Extracted: 07/09/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 08/03/08

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	5.232	300	JA
2.	UNKNOWN	7.360	700	JB
3.	ALDOL CONDENSATE	7.816	2000	JAB
4.	UNKNOWN	8.445	70000	JB
5.	UNKNOWN	22.769	400	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKWD

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

Client: TNUHANFORD F08-101 H3785

Matrix: (soil/water) SOIL

Lab Sample ID: 08LE0325-MB1

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

Lab File ID: C080308

Level: (low/med) LOW

Date Received: 07/09/08

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

Date Extracted: 07/09/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 08/03/08

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	7.368	400	J
2.	ALDOL CONDENSATE	7.816	1000	JA
3.	UNKNOWN	8.419	40000	J
4.	ALDOL CONDENSATE	12.338	100	JA
5.	UNKNOWN	32.347	70	J

Lionville Laboratory Use Only

0807L381

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

Client: TNU Hanford F08-101

Est. Final Proj. Sampling Date:

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

Project Contact/Phone#:

Lionville Laboratory Project Manager: Arlette Johnson

C: SW846 Del: STD TAT: 30 days

Date Rec'd: 7-2-08 Date Due: 8-1-08

		A								B					
Refrigerator #		2								2					
#/Type Container	Liquid														
	Solid	1 gl								1 pl					
Volume	Solid	250								125					
Preservatives		—								—					
ANALYSES REQUESTED →		ORGANIC							INORG						
		VOA	BNA	Pest/PCB	Herb				Metal	CN	Cr+6	NO2, NO3			
		Lionville Laboratory Use Only													
			0625N								ICR6	IN3N2			
			X								X	X			

MATRIX CODES:
- Soil
- E- Sediment
- O- Solid
- L- Sludge
- /- Water
- Oil
- Air
- S- Drum Solids
- L- Drum Liquids
- EP/TCLP Leachate
- /I- Wipe
- Other
- Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected
001	BIV528	✓	✓	S	6-30-08	0935

Special Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
[signature]	[signature]	7-2-08	0945

Relinquished by	Received by	Date	Time

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

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F08-101-019	PAGE 1 OF 1
OLLECTOR: Kevin Patterson NCO SAMPLER: Fluor Hanford	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8N AIR QUALITY: ☐	DATA TURNAROUND: 45 Days / 45 Days
AMPLING LOCATION: 5989, I-113	PROJECT DESIGNATION: 200-BP-5 OU Characterization for "C" Well - Soil		SAF NO.: F08-101		
CE CHEST NO.: GRP-08-11	FIELD LOGBOOK NO.: HNF-N-585-6	ACTUAL SAMPLE DEPTH: 229.4-231.9'	COA: 123513ES10	METHOD OF SHIPMENT: FEDERAL EXPRESS	
HIPPED TO: Jonville Laboratory Incorporated	OFFSITE PROPERTY NO.: SEE PTR		BILL OF LADING/AIR BILL NO.: SEE PTR 7919-2398-5665		

MATRIX*: =Air, L=Drum quids, S=Drum olids, =Liquid, =Oil, =Soil, =Sediment, =Tissue, =Vegitation, /=Water, /T=Wipe, =Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
Radioactive Tie To: B1V511

PRESERVATION				Cool~4C	Cool~4C								
TYPE OF CONTAINER				aG	G/P								
NO. OF CONTAINER(S)				1	1								
VOLUME				250mL	125mL								
SAMPLE ANALYSIS				SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196; NO2/NO3 - 353.2;								
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	[redacted]									
1V528	SOIL	4/30/08	0945	✓	✓								
				3207062	025886								

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Kevin Patterson	7-1-8 1145	DConnolly	7-1-8 1145
DConnolly	7-1-8 1330	Fed Ex	
Fed Ex	7-2-08/0945	DConnolly	7-2-08/0945

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
** Analytical batch QC must be run on a sample associated with this SAF.
(1)Semi-VOA - 8270B (TCL); Semi-VOA - 8270B (Add-On) {2,3,4,6-Tetrachlorophenol, 3+4 Methylphenol (cresol, m+p), Cyclohexanone, Dimethoate, Phorate, Tributyl phosphate}

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

A-6003-618(01/06)

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford **Date:** 7-2-08

Project/SAF/SOW/Release #: F08.101

LvLI Batch #: 08071381 **Sample Custodian:** D Smith

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7919 2398 5665
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 5.6	°C	Cooler # GRP-08-11
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
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

INORGANICS

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD F08-101 H3785

DATE RECEIVED: 07/02/08 LVL LOT # :0807L381

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1V528						
% SOLIDS	001	S	08L%S062	06/30/08	07/09/08	07/10/08
% SOLIDS	001 REP	S	08L%S062	06/30/08	07/09/08	07/10/08
CHROMIUM VI	001	S	08LVI053	06/30/08	07/21/08	07/21/08
CHROMIUM VI	001 REP	S	08LVI053	06/30/08	07/21/08	07/21/08
CHROMIUM VI	001 MS	S	08LVI053	06/30/08	07/21/08	07/21/08
CHROMIUM VI	001 MSD	S	08LVI053	06/30/08	07/21/08	07/21/08
NITRATE NITRITE	001	S	08LN3S21	06/30/08	07/17/08	07/17/08
NITRATE NITRITE	001 REP	S	08LN3S21	06/30/08	07/17/08	07/17/08
NITRATE NITRITE	001 MS	S	08LN3S21	06/30/08	07/17/08	07/17/08

LAB QC:

CHROMIUM VI	MB1	S	08LVI053	N/A	07/21/08	07/21/08
CHROMIUM VI	MB1 BS	S	08LVI053	N/A	07/21/08	07/21/08
CHROMIUM VI	MB1 BSD	S	08LVI053	N/A	07/21/08	07/21/08
NITRATE NITRITE	MB1	S	08LN3S21	N/A	07/17/08	07/17/08
NITRATE NITRITE	MB1 BS	S	08LN3S21	N/A	07/17/08	07/17/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD F08-101 H3785
LVL#: 0807L381

W.O.#: 11343-606-001-9999-00
Date Received: 07-02-08

INORGANIC NARRATIVE

1. This narrative covers the analyses of 1 soil sample.

2. The sample was prepared and analyzed in accordance with the methods indicated on the attached glossary.

   LvLI is NELAP accredited by the State of Pennsylvania. For a complete list of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager. LvLI certifies that all test results meet the requirements of NELAC with any exception noted in the following statements.

3. Sample holding times as required by the method and/or contract were met.

4. The results presented in this report are derived from a sample 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.

8. The replicate analyses were within the 20% Relative Percent Difference (RPD) control limit.

9. Results for soil 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

8/7/08
Date

njp\i07-381

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 11 pages.

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

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

	ASTM	SW846	OTHER
% Ash	__ D2216-80		
% Moisture	__ D2216-80		__ ILMO4.0 (e)
% Solids	✓ D2216-80		__ ILMO4.0 (e)
% Volatile Solids	__ D2216-80		
ASTM Extraction in Water	__ D3987-81/85		
BTU	__ D240-87		
CEC		__ 9081	__ c
Chromium VI		✓ 3060A/7196A	
Corrosivity ___ by coupon ___ by pH		__ 1110(mod) __ 9045C	
Cyanide, Total		__ 9010B	__ ILMO4.0 (e)
Cyanide, Reactive		__ Section 7.3/9014	
Halides, Extractable Organic		__ 9020B	__ EPA 600/4/84-008
Halides, Total		__ 9020B	__ EPA 600/4/84-008
EP Toxicity		__ 1310A	
Flash Point		__ 1010	
Ignitability		__ 1010	
Oil & Grease		__ 9071A	
Carbon, Total Organic		__ 9060	__ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	__ D240-87(mod)	__ 5050	
Petroleum Hydrocarbons, Total Recoverable		__ 9071	__ EPA 418.1
pH, Soil		__ 9045C	
Sulfide, Reactive		__ Section 7.3/9030B	
Sulfide		__ 9030B(mod)	
Specific Gravity	__ D1429-76C/	__ D5057-90	
Sulfur, Total		__ 9056	
Synthetic Preparation Leach		__ 1312	
Paint Filter		__ 9095A	

Other: Nitrate Nitrite **Method:** EPA 353.2(mod.)

Other: **Method**

L-WI-034/B-01/01

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 07/28/08

CLIENT: TNUHANFORD F08-101 H3785

LVL LOT #: 0807L381

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B1V528	% Solids	82.9	%	0.01	1.0
		Chromium VI	0.24 u	MG/KG	0.24	1.0
		Nitrate Nitrite	7.9	MG/KG	0.26	1.0

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Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 07/28/08

CLIENT: TNUHANFORD F08-101 H3785 LVL LOT #: 0807L381
WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	08LVI053-MB1	Chromium VI	0.20 u	MG/KG	0.20	1.0
BLANK10	08LN3S21-MB1	Nitrate Nitrite	0.18 u	MG/KG	0.18	1.0

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Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 07/28/08

CLIENT: TNUHANFORD F08-101 H3785 LVL LOT #: 0807L381

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B1V528	Soluble Chromium VI	5.3	0.24u	4.8	107.9	1.0
		Insoluble Chromium VI	949	0.24u	1020	93.0	100
		Nitrate Nitrite	22.4	7.9	12.6	115.4	2.0
BLANK10	08LVI053-MB1	Soluble Chromium VI	3.8	0.20u	4.0	93.8	1.0
		Insoluble Chromium VI	1310	0.20u	1150	114.3	100
BLANK10	08LN3S21-MB1	Nitrate Nitrite	4.8	0.18u	4.8	100.6	1.0

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Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 07/28/08

CLIENT: TNUHANFORD F08-101 H3785

LVL LOT #: 0807L381

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B1V528	% Solids	82.9	82.1	0.87	1.0
		Chromium VI	0.24u	0.24u	NC	1.0
		Nitrate Nitrite	7.9	7.9	0.076	1.0

See SRC

onville Laboratory Use Only

0807L381

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

24

000000000

ient TNU Hamford F08-101

t. Final Proj. Sampling Date

oject# 11343-606-001-9999-00

oject Contact/Phone#

onville Laboratory Project Manager Arletta Johnson

SW846 Del STD TAT 30 days

ate Rec'd 7-2-08 Date Due 8-1-08

		A								B					
Refrigerator #		2								2					
#/Type Container	Liquid														
	Solid	1gl								1pl					
Volume	Solid	250								125					
Preservatives		—								—					
ANALYSES REQUESTED →		ORGANIC						INORG							
		VOA	BNA	Pest/PCB	Herb			Metal	CN	Cr+6	NO2, NO3				
		Lionville Laboratory Use Only													
			0625N							ICR6	IN3N2				
Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected									
001	BIV528	✓	✓	S	6-30-08	0935		X					X	X	

ATRIX ODES:
- Soil
- E- Sediment
- D- Solid
- Sludge
- Water
- Oil
- Air
- B- Drum Solids
- L- Drum Liquids
- EP/TCLP Leachate
- I- Wipe
- Other
- Fish

Special Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
[signature]	[signature]	7-2-08	0945

Relinquished by	Received by	Date	Time

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

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F08-101-019	PAGE 1 OF 1

OLLECTOR: Kevin Patterson YCO SAMPLER: Fluor Hanford	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL
AMPLING LOCATION: 25989, I-113	PROJECT DESIGNATION: 200-BP-5 OU Characterization for "C" Well - Soil		SAF NO.: F08-101
CE CHEST NO.: GRP-08-11	FIELD LOGBOOK NO.: HNF-N-585-6	ACTUAL SAMPLE DEPTH: 229.4-231.9'	COA: 123513ES10
HIPPED TO: Lionville Laboratory Incorporated	OFFSITE PROPERTY NO.: SEE PTR		BILL OF LADING/AIR BILL NO.: SEE PTR 7919-2398-5665

PRICE CODE: 8N
AIR QUALITY: ☐
DATA TURNAROUND: 45 Days / 45 Days
METHOD OF SHIPMENT: FEDERAL EXPRESS

MATRIX*: =Air; L=Drum; iquids; S=Drum; olids; =Liquid; =Oil; =Soil; E=Sediment; =Tissue; =Vegitation; V=Water; VI=Wipe; =Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
Radioactive Tie To: B1V511

PRESERVATION	Cool~4C	Cool~4C
TYPE OF CONTAINER	aG	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	250mL	125mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196; NO2/NO3 - 353.2;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
1V528	SOIL	6/20/06	0935	✓	✓
				3207062	025886

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
evin Patterson	7-1-8 1145	DConnolly	7-1-8 1145
DConnolly	7-1-8 1330	Fed Ex	
	7-2-08 0945	DConnolly	7-2-08 0945

SPECIAL INSTRUCTIONS
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
** Analytical batch QC must be run on a sample associated with this SAF.
(1)Semi-VOA - 8270B (TCL); Semi-VOA - 8270B (Add-On) {2,3,4,6-Tetrachlorophenol, 3+4 Methylphenol (cresol, m+p), Cyclohexanone, Dimethoate, Phorate, Tributyl phosphate}

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

A-6003-618(01/06)

25.

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford
Project/SAF/SOW/Release #: F08.101

Date: 7-2-08

LvLI Batch #: 08071381

Sample Custodian: D Smith

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7919 2398 5665
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 5.6	°C	Cooler # GRP.08.11
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
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

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