H1642

0056761

Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B01-114 H1642

RFW LOT # :01112[illegible]

CLIENT ID	RFW #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
B13F30	001	W	01LVG113	12/18/01	12/21/01	N/A	12/27/01
B13F30	001 MS	W	01LVG113	12/18/01	12/21/01	N/A	12/27/01
B13F30	001 MSD	W	01LVG113	12/18/01	12/21/01	N/A	12/27/01
B13F31	002	W	01LVG113	12/19/01	12/21/01	N/A	12/27/01
LAB QC:							
VBLKGG	MB1	W	01LVG113	N/A	N/A	N/A	12/27/01
VBLKGG	MB1 BS	W	01LVG113	N/A	N/A	N/A	12/27/01

EDMC

LIONVILLE LABORATORY INC.

Client: TNU-HANFORD B01-114
LVL #: 0112L684
SDG/SAF #: H1642/B01-114

W.O. #: 11343-606-001-9999-00
Date Received: 12-21-2001

GC/MS VOLATILE

Two (2) water samples were collected on 12-18,19-2001.

The samples and their associated QC samples were analyzed according to criteria set forth in Lionville Laboratory OPs based on SW 846 Method 8260B for client specified Volatile target compounds on 12-27-2001.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.

2. The analysis holding time was met.

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

4. All surrogate recoveries were within EPA QC limits.

5. All matrix spike recoveries were within EPA QC limits.

6. All blank spike recoveries were within EPA QC limits.

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

8. "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."

by _____ 01-18-02

J. Michael Taylor
President
Lionville Laboratory Incorporated

Date

som\group\data\voa\tnu-hanford\0112-684.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 1 3 pages.

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF VOA DATA

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.

GLOSSARY OF VOA DATA

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.*

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.

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.

Volatiles By GC/MS, Special List

Report Date: 01/14/02 10:27

RFW Batch Number: 0112L684 Client: TNUHANFORD B01-114 H1642 Work Order: 11343606001 Page: 1a

	Cust ID:	B13F30		B13F30		B13F30		B13F31		VBLKGG		VBLKGG BS	
Sample Information	RFW#:	001		001 MS		001 MSD		002		01LVG113-MB1		01LVG113-MB1	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
Surrogate Recovery	Toluene-d8	100	%	100	%	100	%	100	%	104	%	101	%
	Bromofluorobenzene	102	%	102	%	99	%	99	%	101	%	98	%
	1,2-Dichloroethane-d4	93	%	101	%	98	%	97	%	98	%	94	%
Chloromethane		10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane		10	U	10	U	10	U	10	U	10	U	10	U
Vinyl Chloride		10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane		10	U	10	U	10	U	10	U	10	U	10	U
Methylene Chloride		4	BJ	10	B	9	B	4	BJ	5	J	4	BJ
Acetone		10	U	10	U	10	U	10	U	10	U	10	U
Carbon Disulfide		5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene		5	U	85	%	85	%	5	U	5	U	85	%
1,1-Dichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene (total)		5	U	5	U	5	U	5	U	5	U	5	U
Chloroform		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone		10	U	10	U	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
Carbon Tetrachloride		5	U	5	U	5	U	5	U	5	U	5	U
Bromodichloromethane		5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloropropane		5	U	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene		5	U	100	%	97	%	5	U	5	U	105	%
Dibromochloromethane		5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane		5	U	5	U	5	U	5	U	5	U	5	U
Benzene		5	U	98	%	96	%	5	U	5	U	103	%
Trans-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U	5	U
Bromoform		5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone		10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone		10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene		5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane		5	U	5	U	5	U	5	U	5	U	5	U
Toluene		5	U	103	%	102	%	5	U	5	U	112	%

*= Outside of EPA CLP QC limits.

RFW Batch Number: 0112L684 Client: TNUHANFORD B01-114 H1642 Work Order: 11343606001 Page: 1b

Cust ID:	B13F30	B13F30	B13F30	B13F31	VBLKGG	VBLKGG BS
RFW#:	001	001 MS	001 MSD	002	01LVG113-MB1	01LVG113-MB1
Chlorobenzene	5 U	101 %	102 %	5 U	5 U	108 %
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U
N-butylbenzene	5 U	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B13F30

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0112L684-001

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: q122712

Level: (low/med) LOW Date Received: 12/21/01

% Moisture: not dec. _____ Date Analyzed: 12/27/01

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		SILOXANE	16.691	10	J
2.		SILOXANE	19.660	10	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B13F31

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 0112L684-002

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: q122713

Level: (low/med) LOW Date Received: 12/21/01

% Moisture: not dec. _____ Date Analyzed: 12/27/01

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	SILOXANE	19.666	5	J

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLKGG

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 01LVG113-MB1

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: q122710

Level: (low/med) LOW Date Received: 12/27/01

% Moisture: not dec. _____ Date Analyzed: 12/27/01

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				

FORM 1 VOA-TIC 1/87 Rev.

Lionville Laboratory Use Only
0112L684

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client TNU Hanford B01-114
Est. Final Proj. Sampling Date
Project # 13343-006-001-9999-00
Project Contact/Phone #
Lionville Laboratory Project Manager OJ
QC SPEC Del STD TAT 30 days
Date Rec'd 12/21/01 Date Due 1/20/02

Refrigerator #		1									
#/Type Container	Liquid	3x									
	Solid										
Volume	Liquid	40									
	Solid										
Preservatives		HCl									
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb				INORG: Metal	CN	

ABC

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	8260A TCL/a...	0624X	Lionville Laboratory Use Only
001	B13P30			W	12/18/01	1700	X		
002	B13P31			L	12/19/01	1700	X		

Special Instructions: SAF # B01-114
Run Matrix QC

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Lionville Laboratory Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # 4235-7954-9850
2) Ambient or (Chilled)
3) Received in Good Condition (Y) or N
4) Samples Properly Preserved (Y) or N
5) Received Within Holding Times (Y) or N

Tamper Resistant Seal was:
1) Present on Outer Package (Y) or N
2) Unbroken on Outer Package (Y) or N
3) Present on Sample (Y) or N
4) Unbroken on Sample (Y) or N
COC Record Present Upon Sample Rec't (Y) or N
Cooler Temp. 1 °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Fedex	JPerry	12/21/01	1615				

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:

COMPOSITE WASTE
ORIGINAL REWRITTEN

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B01-114-34	Page 1 of 1
Collector Renee Nielson	Company Contact Virginia Rohay	Telephone No. 372-9100	Project Coordinator TRENT, SJ	Price Code 7N Air Quality ☐	Data Turnaround 45 Days
Project Designation PFP Well Installation Sampling and Analysis - Water	Sampling Location 200 West		SAF No. B01-114		
Ice Chest No. ERC.99.065	Field Logbook No. EL-1562	COA T20ZP1D722	Method of Shipment Federal Express		
Shipped To TMA/RECRA	Offsite Property No. A020101		Bill of Lading/Air Bill No. 4235754-9860		

POSSIBLE SAMPLE HAZARDS/REMARKS
Samples did not originate in radiological controlled area. No total activity associated with sample/samples. RT 12.19.01

Special Handling and/or Storage

Preservation	HCl to pH <2 Cool 4C									
Type of Container	aGs*									
No. of Container(s)	3									
Volume	40mL									
SAMPLE ANALYSIS	VOA - 8260A (TCL); VOA - 8260A (Add-On) (n-Butylbenzene)									
Sample No.	Matrix *	Sample Date	Sample Time							
B13F30	WATER	12/18/01	1700	X						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By / Date/Time	Received By / Date/Time		
R. Nielson 12/19/01 0445	Ref #2C 12/19/01 0445		
Relinquished By / Date/Time	Received By / Date/Time		
Ref 2C 3720 12:20:01	R L Thoren 12-20-01		
Relinquished By / Date/Time	Received By / Date/Time		
R L Thoren ERC 12.20.01 0900	FED EX		
Relinquished By / Date/Time	Received By / Date/Time		
fed ex 12/21/01 1615	Jenny 12/21/01 1615		
Relinquished By / Date/Time	Received By / Date/Time		
Relinquished By / Date/Time	Received By / Date/Time		

SPECIAL INSTRUCTIONS

Samples stored in Ref.# 2C at the 3720 on 12-20-01
Shipping Facility on ~~12/20/01~~ 12-19-01
Collector not available to relinquish samples on 12/20/01 for shipment.
RT 12-2001

Matrix *
S=Soil
SD=Sediment
SO=Solid
S=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
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B01-114-35	Page 1 of 1
Collector Renee Nielson	Company Contact Virginia Rohay	Telephone No. 372-9100	Project Coordinator TRENT, SJ	Price Code 7N Air Quality ☐	Data Turnaround 45 Days
Project Designation PFP Well Installation Sampling and Analysis - Water	Sampling Location 200 West		SAF No. B01-114		
Ice Chest No. ERC-99-065	Field Logbook No. EL-1562	COA T20ZP1D722	Method of Shipment Federal Express		
Shipped To TMA/RECRA	Offsite Property No. A020101		Bill of Lading/Air Bill No. 423579454-9850		

POSSIBLE SAMPLE HAZARDS/REMARKS
Samples did not originate in radiological controlled area. No total activity associated with sample/samples. RT 12.26.01

Special Handling and/or Storage

Preservation	HCl to pH <2 Cool 4C												
Type of Container	aGs*												
No. of Container(s)	3												
Volume	40mL												
SAMPLE ANALYSIS	VOA - 8260A (TCL); VOA - 8260A (Add-On) (n-Butylbenzene)												
Sample No.	Matrix *	Sample Date	Sample Time										
B13F31	WATER	12/19/01	1700	X									

CHAIN OF POSSESSION

Relinquished By	Date/Time	Received By	Date/Time
Renee Nielson / R. Nielson	12/20/01 0405	Ref 2B	12/20/01 0405
REMOVED from Ref 2B 3728	12-20-01 0400	R. Thorell	12-20-01 0400
R. Thorell ESC	12-20-01 0400	FEDEX	
FedEx	12/21/01 1615	JPerry	12/21/01 1615

SPECIAL INSTRUCTIONS
Samples stored in Ref. 2B at the 3728 Shipping Facility on 12/20/01.
Collector not available to relinquish samples on 12/20/01 for shipment.
RT 12-20-01

Matrix *
S=Soil
SD=Sediment
SO=Solid
S=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
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)