

H/629

0056613

Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B01-114 H1629



RFW LOT # :0112L482

CLIENT ID	RFW #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
B13F28	001	W	01LVG085	11/29/01	12/01/01	N/A	12/10/01
B13F28	001 MS	W	01LVG085	11/29/01	12/01/01	N/A	12/10/01
B13F28	001 MSD	W	01LVG085	11/29/01	12/01/01	N/A	12/10/01
LAB QC:							
VBLKCV	MB1	W	01LVG085	N/A	N/A	N/A	12/10/01
VBLKCV	MB1 BS	W	01LVG085	N/A	N/A	N/A	12/10/01

al
12-13-01

RECEIVED
MAR 14 2002
EDMC



Analytical Report

Client: TNU-HANFORD B01-114
LVL #: 0112L482
SDG/SAF #: H1629/B01-114

W.O. #: 11343-606-001-9999-00
Date Received: 12-01-01

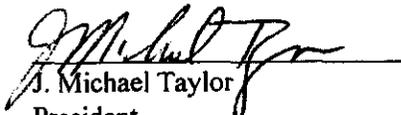
GC/MS VOLATILE

One (1) water sample was collected on 11-29-01.

The sample and its associated QC samples were analyzed according to criteria set forth in Lionville Laboratory OPs based on SW 846 Method 8260B for client specified target compounds on 12-10-01.

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 required holding time for analysis was met.
3. Non-target compounds were detected in the sample.
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. The method blank contained the common laboratory contaminant Acetone at a level less than the CRQL.
8. Internal standard area and retention time criteria were met.
9. Manual integrations are performed according to OP L-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"); hard copies of the integrations have been included with the quantitation data.
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.


J. Michael Taylor
President
Lionville Laboratory Incorporated
pef\group\data\voa\tnu-hanford\0112-482.doc

12/18/01
Date

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 12 pages.

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.

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.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quantitation 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 quantitation modifications:

- MP** - **Missed Peak:** manually added peak not found by automatic quantitation program.
- PA** - **Peak Assignment:** quantitation 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: 12/13/01 14:57

RFW Batch Number: 01121482

Client: TNUHANFORD B01-114 H1629 Work Order: 11343606001 Page: 1a

	Cust ID:	B13F28	B13F28	B13F28	VBLKCV	VBLKCV BS	
Sample Information	RFW#:	001	001 MS	001 MSD	01LVG085-MB1	01LVG085-MB1	
	Matrix:	WATER	WATER	WATER	WATER	WATER	
	D.F.:	1.00	1.00	1.00	1.00	1.00	
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	
	Toluene-d8	101 %	105 %	97 %	103 %	95 %	
Surrogate	Bromofluorobenzene	99 %	101 %	99 %	99 %	96 %	
Recovery	1,2-Dichloroethane-d4	92 %	105 %	93 %	97 %	89 %	
-----fl-----fl-----fl-----fl-----fl-----fl-----fl							
Chloromethane		10 U	10 U	10 U	10 U	10 U	
Bromomethane		10 U	10 U	10 U	10 U	10 U	
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U	
Chloroethane		10 U	10 U	10 U	10 U	10 U	
Methylene Chloride		5 U	5 U	5 U	5 U	5 U	
Acetone		2 JB	4 JB	1 JB	4 J	5 JB	
Carbon Disulfide		5 U	5 U	5 U	5 U	5 U	
1,1-Dichloroethene		5 U	97 %	90 %	5 U	87 %	
1,1-Dichloroethane		5 U	5 U	5 U	5 U	5 U	
1,2-Dichloroethene (total)		5 U	5 U	5 U	5 U	5 U	
Chloroform		5 U	5 U	5 U	5 U	5 U	
1,2-Dichloroethane		5 U	5 U	5 U	5 U	5 U	
2-Butanone		10 U	1 J	10 U	10 U	2 J	
1,1,1-Trichloroethane		5 U	5 U	5 U	5 U	5 U	
Carbon Tetrachloride		5 U	5 U	5 U	5 U	5 U	
Bromodichloromethane		5 U	5 U	5 U	5 U	5 U	
1,2-Dichloropropane		5 U	5 U	5 U	5 U	5 U	
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	
Trichloroethene		5 U	94 %	93 %	5 U	93 %	
Dibromochloromethane		5 U	5 U	5 U	5 U	5 U	
1,1,2-Trichloroethane		5 U	5 U	5 U	5 U	5 U	
Benzene		5 U	100 %	95 %	5 U	91 %	
Trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U	
Bromoform		5 U	5 U	5 U	5 U	5 U	
4-Methyl-2-pentanone		10 U	10 U	10 U	10 U	10 U	
2-Hexanone		10 U	10 U	10 U	10 U	10 U	
Tetrachloroethene		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	
Toluene		5 U	105 %	102 %	5 U	95 %	

*= Outside of EPA CLP QC limits.

Cust ID: B13F28 B13F28 B13F28 VBLKCV VBLKCV BS

RFW#: 001 001 MS 001 MSD 01LVG085-MB1 01LVG085-MB1

2

Chlorobenzene	5 U	100 %	97 %	5 U	93 %
Ethylbenzene	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U
N-butylbenzene	5 U	5 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

1E
VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B13F28

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

Client: TNUHANFORD B01-114 H1629

Matrix: WATER

Lab Sample ID: 0112L482-001

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: g121008

Level: (low/med) LOW

Date Received: 12/01/01

% Moisture: not dec.

Date Analyzed: 12/10/01

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	6	J

1E
VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

VBLKCV

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

Client: TNUHANFORD B01-114 H1629

Matrix: WATER Lab Sample ID: 01LVG085-MB1

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: q121005

Level: (low/med) LOW Date Received: 12/10/01

% Moisture: not dec. Date Analyzed: 12/10/01

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.				



FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

0112L482

Client <u>NU-HANford SAF-B01-114</u>	Refrigerator # <u>1</u>														
Est. Final Proj. Sampling Date _____	#/Type Container Liquid <u>BAG</u> Solid _____														
Project # <u>11343-606-001-9999-00</u>	Volume Liquid <u>40</u> Solid _____														
Project Contact/Phone # _____	Preservatives <u>Hal</u>														
Lionville Laboratory Project Manager <u>OS</u>	ANALYSES REQUESTED →														
QC <u>SPC</u> Del <u>5<D</u> TAT <u>30 days</u>															
Date Rec'd <u>12-1-01</u> Date Due <u>12-31-01</u>	<table border="1"> <tr> <th colspan="5">ORGANIC</th> <th colspan="2">INORG</th> </tr> <tr> <th>VOA</th> <th>BNA</th> <th>Pest/PCB</th> <th>Herb</th> <th>Metal</th> <th>CN</th> <th></th> </tr> </table>	ORGANIC					INORG		VOA	BNA	Pest/PCB	Herb	Metal	CN	
ORGANIC					INORG										
VOA	BNA	Pest/PCB	Herb	Metal	CN										

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 (✓)		Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only						
			MS	MSD				0624X						
	<u>001</u>	<u>313F28</u>	<u>✓</u>	<u>✓</u>	<u>W</u>	<u>11-29-01</u>	<u>1659</u>	<u>3</u>						

Special Instructions: SAF # B01-114

DATE/REVISIONS:

- _____
- _____
- _____
- _____
- _____
- _____

Lionville Laboratory Use Only

Samples were: 1) Shipped <u>✓</u> or Hand Delivered _____ Airbill # <u>See Below</u> 2) Ambient or <u>Chilled</u> 3) Received in Good Condition <u>Y</u> or N 4) Samples Properly Preserved <u>Y</u> or N 5) Received Within Holding Times <u>Y</u> or N	Tamper Resistant Seal was: 1) Present on Outer Package <u>Y</u> or N 2) Unbroken on Outer Package <u>Y</u> or N 3) Present on Sample <u>Y</u> or N 4) Unbroken on Sample <u>Y</u> or N COC Record Present Upon Sample Rec't <u>Y</u> or N Cooler Temp. <u>2.5</u> °C
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Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
<u>FWE</u>	<u>[Signature]</u>	<u>12-1-01</u>	<u>1045</u>	COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or (N)
NOTES:
423579549380

012L487

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B01-114-32	Page 1 of 1
Collector Renee Nielson		Company Contact Virginia Rohay		Telephone No. 372-9100		Project Coordinator TRENT, SJ	Price Code 7N Data Turnaround 45 Days
Project Designation PFP Well Installation Sampling and Analysis - Water		Sampling Location 200 West		SAF No. B01-114		Air Quality <input type="checkbox"/>	45 Days
Ice Chest No. <i>See OSC</i>		Field Logbook No. EL-1562		COA T20ZF1D722		Method of Shipment Federal Express	
Shipped To TM/RECRA		Offsite Property No. <i>A070046</i>		Bill of Lading/Air Bill No. <i>See OSC</i>			
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	HCl to pH <2 Cool-AC		
Special Handling and/or Storage				Type of Container	4Gs*		
				No. of Container(s)	3		
				Volume	40mL		
SAMPLE ANALYSIS				VOA - 8260A (TCL); VOA - 8260A (Add-On) (n-Butylbenzene)		<p>SAMPLES STORED IN REF.# <i>ZB</i> AT THE 3728 SHIPPING FACILITY ON <i>11/20/01</i>. COLLECTOR NOT AVAILABLE TO RELINQUISH SAMPLES ON <i>11/30/01</i> FOR SHIPMENT.</p> <p><i>ZT 11-30-01</i></p>	
Sample No.	Matrix *	Sample Date	Sample Time				
B13F28	WATER	<i>11/29/01</i>	<i>1659</i>	X			
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS		Matrix *	
Relinquished By <i>R. Nielson</i>		Date/Time <i>11-30-01 0440</i>		Received By <i>Steve D</i>		Date/Time <i>11-30-01 0440</i>	
Relinquished By <i>Remove from Ref ID 3728</i>		Date/Time <i>11-30-01 0900</i>		Received By <i>R. Thore</i>		Date/Time <i>11-30-01 11:30.0</i>	
Relinquished By <i>R. Thore</i>		Date/Time <i>11-30-01 11:30.01</i>		Received By <i>FED EX</i>		Date/Time	
Relinquished By <i>Fed Ex</i>		Date/Time <i>12-1-01 1045</i>		Received By <i>11/9/2001</i>		Date/Time <i>12-1-01 1045</i>	
Relinquished By		Date/Time		Received By		Date/Time	
Relinquished By		Date/Time		Received By		Date/Time	
LABORATORY SECTION		Received By		Title		Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time	

Figure 1. Sample Check-in List

Date/Time Received: 12-1-01 1045

SDG#: 0112L482

Work Order Number: _____

SAF# B01-114

Shipping Container ID: ERC-99-042

Chain of Custody # B01-114-32

1. Custody Seals on shipping container intact? Yes No

2. Custody Seals dated and signed? Yes No

3. Chain-of-Custody record present? Yes No

4. Cooler temperature 2.5

5. Vermiculite/packing materials is Wet Dry

6. Number of samples in shipping container: 12

7. Sample holding times exceeded? Yes No

8. Samples have:	<input type="checkbox"/> tape	<input type="checkbox"/> hazard labels
	<input checked="" type="checkbox"/> custody seals	<input type="checkbox"/> appropriate sample labels

9. Samples are:	<input checked="" type="checkbox"/> in good condition	<input type="checkbox"/> leaking
	<input type="checkbox"/> broken	<input type="checkbox"/> have air bubbles

10. Were any anomalies identified in sample receipt? Yes No

11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: W.D. Hardy
General Laboratory Services, Incorporated Date: 12-1-01

Telephoned to: _____ On _____ By _____