

H1630

0056614

JAN 2002
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Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B99-093 H1630

DATE RECEIVED: 12/04/01

LVL LOT # :0112L506

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B13LL3	001	M1	SO 01LVH522	11/29/01	N/A	12/06/01
B13LL3	001 MS	M1	SO 01LVH522	11/29/01	N/A	12/06/01
B13LL3	001 MSD	M1	SO 01LVH522	11/29/01	N/A	12/06/01
B13LL4	002	M1	SO 01LVH524	11/29/01	N/A	12/07/01
B13LL5	003	M1	SO 01LVH522	11/29/01	N/A	12/06/01
B13LL6	004	M1	SO 01LVH522	11/29/01	N/A	12/06/01
B13LL7	005	M1	SO 01LVH522	11/29/01	N/A	12/06/01
B13LL8	006	M1	SO 01LVH522	11/29/01	N/A	12/06/01

LAB QC:

VBLKDV	MB1	S	01LVH522	N/A	N/A	12/06/01
VBLKDV	MB1 BS	S	01LVH522	N/A	N/A	12/06/01
VBLKDX	MB1	S	01LVH524	N/A	N/A	12/07/01

12-31-01

RECEIVED
MAR 14 2002
EDMC



Analytical Report

Client: TNU-HANFORD B99-093
LVL #: 0112L506
SDG/SAF #: H1630/B99-093

W.O. #: 11343-606-001-9999-00
Date Received: 12-04-01

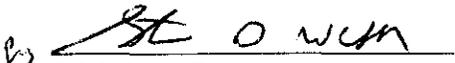
GC/MS VOLATILE

The set of samples consisted of six (6) solid samples collected on 11-29-01.

The samples and their associated QC samples were analyzed according to criteria set forth in Lionville Laboratory OPs based on SW 846 Method 8260A for client specified target compound Carbon Tetrachloride on 12-06,07-01.

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 analysis holding time was met.
3. Non-target compounds were not reported in the samples.
4. All samples required twenty-five or fifty-fold dilutions of the medium level analysis because they contained high levels of target compound:
5. All surrogate recoveries were within EPA QC limits.
6. All matrix spike recoveries were within EPA QC limits.
7. All blank spike recoveries were within EPA QC limits.
8. The method blanks contained no target compounds.
9. Internal standard area and retention time criteria were met.
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

01-02-02
Date

pef\group\data\voal\tnu-hanford\0112-506.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 10 pages.

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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.
- RJ** - **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: 12/31/01 10:23

RFW Batch Number: 0112L506

Client: TNUHANFORD B99-093 H1630 Work Order: 11343606001 Page: 1a

	Cust ID:	B13LL3	B13LL3	B13LL3	B13LL4	B13LL5	B13LL6
Sample	RFW#:	001	001 MS	001 MSD	002	003	004
Information	Matrix:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	D.F.:	95.2	95.2	95.2	47.6	90.9	93.0
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
	Level:	MED	MED	MED	MED	MED	MED
<hr/>							
Surrogate	1,2-Dichloroethane-d4	96 %	103 %	104 %	91 %	98 %	98 %
	Toluene-d8	104 %	99 %	99 %	100 %	100 %	101 %
Recovery	Bromofluorobenzene	85 %	90 %	90 %	84 %	84 %	83 %
<hr/>							
	Carbon Tetrachloride	800000	106 %	113 %	490000	930000	1000000

	Cust ID:	B13LL7	B13LL8	VBLKDV	VBLKDV BS	VBLKDX
Sample	RFW#:	005	006	01LVH522-MB1	01LVH522-MB1	01LVH524-MB1
Information	Matrix:	SOLID	SOLID	SOIL	SOIL	SOIL
	D.F.:	97.6	90.9	2.00	2.00	2.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
	Level:	MED	MED	MED	MED	MED
<hr/>						
Surrogate	1,2-Dichloroethane-d4	99 %	98 %	94 %	102 %	89 %
	Toluene-d8	101 %	103 %	102 %	98 %	101 %
Recovery	Bromofluorobenzene	80 %	85 %	85 %	90 %	85 %
<hr/>						
	Carbon Tetrachloride	630000	1600000	620 U	106 %	620 U

*= Outside of EPA CLP QC limits.



FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

0112L506

Client <u>TNU-HANFORD</u> <u>SAF B99-093</u>		Refrigerator #	1	
Est. Final Proj. Sampling Date		#/Type Container	Liquid	
Project # <u>11343-606-001-9999-00</u>			Solid	<u>1AG</u>
Project Contact/Phone #		Volume	Liquid	
Lionville Laboratory Project Manager <u>OS</u>			Solid	<u>250</u>
QC <u>SPEC</u> Del <u>STD</u> TAT <u>30 days</u>		Preservatives		
Date Rec'd <u>12-4-01</u> Date Due <u>1-3-02</u>		ANALYSES REQUESTED →		
		ORGANIC		
		VOA	BNA	Pres/PCB
			Herb	
		INORG		
		Metal	N	C

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				0624 X	12/MSU
			001	B13LL3					
002	B13LL4					0953	X		
003	B13LL5					1010	X		
004	B13LL6					1025	X		
005	B13LL7					1036	X		
006	B13LL8					1047	X		

Special Instructions: SAF # B99-093

Run Matrix QC

DATE/REVISIONS:

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

Lionville Laboratory Use Only

- | | |
|--|--|
| Samples were: | Temper Resistant Seal was: |
| 1) Shipped <u>✓</u> or Hand Delivered _____ | 1) Present on Outer Package <u>Ⓞ</u> or N |
| Albit # <u>see below</u> | 2) Unbroken on Outer Package <u>Ⓞ</u> or N |
| 2) Ambient or <u>Chilled</u> | 3) Present on Sample <u>Ⓞ</u> or N |
| 3) Received in Good Condition <u>Y</u> or N | 4) Unbroken on Sample <u>Ⓞ</u> or N |
| 4) Samples Properly Preserved <u>Ⓞ</u> or N | COC Record Present Upon Sample Rec't <u>Ⓞ</u> or N |
| 5) Received Within Holding Times <u>Ⓞ</u> or N | Cooler Temp. <u>1.8</u> °C |

Relinquished by	Received by	Date	Time
<u>Fedex</u>	<u>Calo Henry</u>	<u>12-4-01</u>	<u>0945</u>

Relinquished by	Received by	Date	Time
COMPOSITE WASTE		ORIGINAL REWRITTEN	

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES: 4235 7954 9438

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B99-093-37		Page 1 of 1																																																			
Collector R Fahberg		Company Contact Virginia Rohay		Telephone No. 372-9100		Project Coordinator TRENT, SJ		Price Code 9N Data Turnaround																																																			
Project Designation 200-ZP-2 Passive Soil Vapor Extraction - Other Solid		Sampling Location 200 West		SAF No. B99-093		Air Quality <input type="checkbox"/>		45 Days																																																			
Ice Chest No. ERC-02-010		Field Logbook No. EL 1517-2		COA R20ZP2DP60		Method of Shipment Federal Express																																																					
Shipped To TM/RECRA		Offsite Property No. A020045			Bill of Lading/Air Bill No. 42357954-9438																																																						
POSSIBLE SAMPLE HAZARDS/REMARKS Special Handling and/or Storage				Preservation		Cool 4C																																																					
				Type of Container		aG																																																					
				No. of Container(s)		1																																																					
				Volume		250mL																																																					
SAMPLE ANALYSIS				VOA - 8260A (TCL) (Carbon tetrachloride); Moisture Content - D216																																																							
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Sample No.</th> <th>Matrix *</th> <th>Sample Date</th> <th>Sample Time</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>B13LL3</td> <td>OTHER SOLID</td> <td>11-29-01</td> <td>0927</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>B13LL4</td> <td>OTHER SOLID</td> <td>11-29-01</td> <td>0953</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>B13LL5</td> <td>OTHER SOLID</td> <td>11-29-01</td> <td>1010</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>B13LL6</td> <td>OTHER SOLID</td> <td>11-29-01</td> <td>1025</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										Sample No.	Matrix *	Sample Date	Sample Time							B13LL3	OTHER SOLID	11-29-01	0927	X						B13LL4	OTHER SOLID	11-29-01	0953	X						B13LL5	OTHER SOLID	11-29-01	1010	X						B13LL6	OTHER SOLID	11-29-01	1025	X					
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CHAIN OF POSSESSION					SPECIAL INSTRUCTIONS																																																						
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		<p>** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found.</p> <p>** Laboratory must include the % Moisture data as part of all hard copy reports.</p> <p>Samples did not originate in radiological controlled area. No total activity associated with sample/samples.</p> <p style="text-align: center; font-size: 1.2em;">RT 12-3-01</p> <p style="text-align: center;">SAMPLES STORED IN REF.# 2A AT THE 3728 SHIPPING FACILITY ON 11/29/01. COLLECTOR NOT AVAILABLE TO RELINQUISH SAMPLES ON 12/3/01 FOR SHIPMENT.</p>																																																			
R. Fahberg / R. Fahberg		11-29-01 1230		Ref Z-D		11-30-01 1230																																																					
R. J. 2A		3728 1230		R. J. R. Thore		12-3-01 0900																																																					
R. J. R. Thore		ERC 12-3-01 0900		F. J. O. E. N.																																																							
FEDEX		12-4-01 0945		Cals Hwy		12-4-01 0945																																																					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		<p>Matrix *</p> <p>S=soil SE=Solvent SO=Solid SI=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue W=Wipe L=Liquid V=Vegetation X=Other</p>																																																			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time																																																					
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time																																																					
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">LABORATORY SECTION</td> <td style="width: 40%;">Received By</td> <td style="width: 40%;">Title</td> <td style="width: 10%;">Date/Time</td> </tr> <tr> <td>FINAL SAMPLE DISPOSITION</td> <td>Disposal Method</td> <td>Disposed By</td> <td>Date/Time</td> </tr> </table>										LABORATORY SECTION	Received By	Title	Date/Time	FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time																																										
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Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B99-093-38		Page 1 of 3	
Collector R Fahlberg		Company Contact Virginia Rohay		Telephone No. 372-9100		Project Coordinator TRENT, SJ		Price Code 9N Data Turnaround 45 Days	
Project Designation 200-ZP-2 Passive Soil Vapor Extraction - Other Solid		Sampling Location 200 West		SAF No. B99-093		Air Quality <input type="checkbox"/>			
Ice Chest No. ERC-02-010		Field Logbook No. EL 1517-2		COA R20ZP2DP60		Method of Shipment Federal Express			
Shipped To TMA/RECRA		Offsite Property No. A020045		Bill of Lading/Air-Bill No. 42357954-9438					
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation Cool 4C					
Special Handling and/or Storage				Type of Container aG					
				No. of Container(s) 1					
				Volume 250mL					
SAMPLE ANALYSIS				VOA - 8260A (TCL) (Carbon tetrachloride); Moisture Content - D2216					
Sample No.		Matrix *	Sample Date	Sample Time					
B13LL7		OTHER SOLID	11-29-01	1036	X				
B13LL8		OTHER SOLID	11-29-01	1047	X				
B13LL9		OTHER SOLID							
B13LM0		OTHER SOLID							
CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS			
Relinquished By/Removed From R Fahlberg		Date/Time 11-29-01		Received By/Stored In RT 20		Date/Time 11-29-01		<p>** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found.</p> <p>** Laboratory must include the % Moisture data as part of all hard copy reports.</p> <p>Samples did not originate in radiological controlled area. No total activity associated with sample/samples.</p> <p>RT 12-3-01</p> <p>SAMPLES STORED IN REF.# 2A AT THE 3728 SHIPPING FACILITY ON 11/29/01. COLLECTOR NOT AVAILABLE TO RELINQUISH SAMPLES ON 12/3/01 FOR SHIPMENT.</p>	
Relinquished By/Removed From R. O. ZA		Date/Time 12-30-01		Received By/Stored In R. F. THORP		Date/Time 12-30-01			
Relinquished By/Removed From R. F. THORP		Date/Time 12-30-01		Received By/Stored In FEDEX		Date/Time 12-30-01			
Relinquished By/Removed From FEDEX		Date/Time 12-4-01 0945		Received By/Stored In Caly Henry		Date/Time 12-4-01 0945			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time		Matrix *	
LABORATORY SECTION		Received By		Title		Date/Time		<ul style="list-style-type: none"> S=Soil SE=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Drum Solid DL=Drum Liquid T=Tissue W=Wipe L=Liquid V=Vegetation X=Other 	
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time			

Figure 1. Sample Check-in List

Date/Time Received: 12-4-01 0945

SDG#: 0112L506

Work Order Number: _____

SAF# B99-093

Shipping Container ID: FRC-02010

Chain of Custody # B99-093-37

- 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 1.8°
- 5. Vermiculite/packing materials is Wet Dry
- 6. Number of samples in shipping container: 14
- 7. Sample holding times exceeded? Yes No

8.	Samples have:	<input checked="" 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: Labo H... Date: 12-4-01

Telephoned to: _____ On _____ By _____

JAN 2002
RECEIVED

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B99-093 H1630

DATE RECEIVED: 12/04/01

LVL LOT # :0112L506

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B13LL3						
% MOISTURE	001	SO	01L*S173	11/29/01	12/11/01	12/12/01
% MOISTURE	001 REP	SO	01L*S173	11/29/01	12/11/01	12/12/01
% SOLIDS	001	SO	01L*S173	11/29/01	12/11/01	12/12/01
% SOLIDS	001 REP	SO	01L*S173	11/29/01	12/11/01	12/12/01
B13LL4						
% MOISTURE	002	SO	01L*S173	11/29/01	12/11/01	12/12/01
% SOLIDS	002	SO	01L*S173	11/29/01	12/11/01	12/12/01
B13LL5						
% MOISTURE	003	SO	01L*S173	11/29/01	12/11/01	12/12/01
% SOLIDS	003	SO	01L*S173	11/29/01	12/11/01	12/12/01
B13LL6						
% MOISTURE	004	SO	01L*S173	11/29/01	12/11/01	12/12/01
% SOLIDS	004	SO	01L*S173	11/29/01	12/11/01	12/12/01
B13LL7						
% MOISTURE	005	SO	01L*S173	11/29/01	12/11/01	12/12/01
% SOLIDS	005	SO	01L*S173	11/29/01	12/11/01	12/12/01
B13LL8						
% MOISTURE	006	SO	01L*S173	11/29/01	12/11/01	12/12/01
% SOLIDS	006	SO	01L*S173	11/29/01	12/11/01	12/12/01



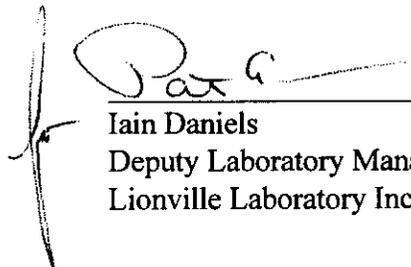
Analytical Report

Client: TNU-HANFORD B99-093 H1630
LVL#: 0112L506

W.O.#: 11343-606-001-9999-00
Date Received: 12-04-01

INORGANIC NARRATIVE

1. This narrative covers the analyses of 6 solid samples.
2. The samples were prepared and analyzed in accordance with the method checked on the attached glossary.
3. Sample holding times as required by the method and/or contract were met.
4. The cooler temperature was recorded on the chain of custody.
5. The replicate analyses were within the 20% Relative Percent Difference (RPD) control limit.
6. 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
Deputy Laboratory Manager
Lionville Laboratory Incorporated

12-20-01
Date

njpi12-506

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 10 pages.

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

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

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 12/12/01

CLIENT: TNUHANFORD B99-093 H1630
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0112L506

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
-001	B13LL3	% Moisture	30.7	%	0.01	1.0
		% Solids	69.3	%	0.01	1.0
-002	B13LL4	% Moisture	40.5	%	0.01	1.0
		% Solids	59.5	%	0.01	1.0
-003	B13LL5	% Moisture	40.6	%	0.01	1.0
		% Solids	59.4	%	0.01	1.0
-004	B13LL6	% Moisture	24.6	%	0.01	1.0
		% Solids	75.4	%	0.01	1.0
-005	B13LL7	% Moisture	29.8	%	0.01	1.0
		% Solids	70.2	%	0.01	1.0
-006	B13LL8	% Moisture	40.9	%	0.01	1.0
		% Solids	59.1	%	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 12/12/01

CLIENT: TNUHANFORD B99-093 H1630
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0112L506

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE RPD		DILUTION FACTOR(REP)
=====	=====	=====	=====	=====	=====	=====
-001REP	B13LL3	% Moisture	30.7	30.8	0.42	1.0
		% Solids	69.3	69.2	0.19	1.0



0112L506

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client <u>TNU-HANFORD SAF B99-093</u>	Refrigerator # <u>1</u>
Est. Final Proj. Sampling Date _____	#/Type Container
Project # <u>11343-606-001-9999-00</u>	Liquid _____
Project Contact/Phone # _____	Solid <u>1AG</u>
Lionville Laboratory Project Manager <u>OJ</u>	Volume
QC <u>SPEC</u> Del <u>STD</u> TAT <u>30 days</u>	Liquid _____
	Solid <u>250</u>
	Preservatives _____
Date Rec'd <u>12-4-01</u> Date Due <u>1-3-02</u>	ANALYSES REQUESTED →
	ORGANIC
	VOA BNA Pest/PCB Herb
	INORG
	Metal CN

MATRIX CODES: S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum DL - Drum L - EP/TCLP 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				0624 X	12/MS
	001	B13LL3			SO	11-29-01	0927	X	
	002	B13LL4					0953	X	
	003	B13LL5					1010	X	
	004	B13LL6					1025	X	
	005	B13LL7					1036	X	
	006	B13LL8					1047	X	

Special Instructions: SAF # B99-093

Run Matrix QC

DATE/REVISIONS:

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

Lionville Laboratory Use Only

Samples were:	Tamper Resistant Seal was:
1) Shipped <u>✓</u> or Hand Delivered _____	1) Present on Outer Package <u>⓪</u> or N
Airbill # <u>SEE below</u>	2) Unbroken on Outer Package <u>⓪</u> or N
2) Ambient or <u>Chilled</u>	3) Present on Sample <u>⓪</u> or N
3) Received in Good Condition <u>Y</u> or N	4) Unbroken on Sample <u>⓪</u> or N
4) Samples Properly Preserved <u>⓪</u> or N	COC Record Present Upon Sample Rec't <u>⓪</u> or N
5) Received Within Holding Times <u>⓪</u> or N	Cooler Temp. <u>1.8</u> °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
<u>FedEx</u>	<u>Cals Hanford</u>	<u>12-4-01</u>	<u>0945</u>				

COMPOSITE WASTE

ORIGINAL REWRITTEN

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES: 4235 7954 9438

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B99-093-37	Page 1 of 1	
Collector R Fahlberg	Company Contact Virginia Rohay	Telephone No. 372-9100	Project Coordinator TRENT, SJ	Price Code 9N	Data Turnaround 45 Days			
Project Designation 200-ZP-2 Passive Soil Vapor Extraction - Other Solid	Sampling Location 200 West	SAF No. B99-093	Air Quality <input type="checkbox"/>					
Ice Chest No. ERC-02-010	Field Logbook No. EL 1517-2	COA R20ZP2DP60	Method of Shipment Federal Express					
Shipped To TM/RECRA	Offsite Property No. A020045	Bill of Lading/Air Bill No. 42357454-9438						
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation Cool 4C				
Special Handling and/or Storage				Type of Container aG				
				No. of Container(s) 1				
				Volume 250mL				
				SAMPLE ANALYSIS	VOA - 8160A (TCL) (Carbon tetrachloride); Moisture Content - D2216			
Sample No.	Matrix *	Sample Date	Sample Time					
B13LL3	OTHER SOLID	11-29-01	0927	X				
B13LL4	OTHER SOLID	11-29-01	0953	X				
B13LL5	OTHER SOLID	11-29-01	1010	X				
B13LL6	OTHER SOLID	11-29-01	1025	X				
CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS				Matrix *
Relinquished By/Removed From R. Fahlberg	Date/Time 11-29-01 1230	Received By/Stored In Ref 2-D	Date/Time 11-29-01 1230	** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found. ** Laboratory must include the % Moisture data as part of all hard copy reports. Samples did not originate in radiological controlled area. No total activity associated with sample/samples. RT 12-3-01 SAMPLES STORED IN REF.# 2A AT THE 3728 SHIPPING FACILITY ON 11/29/01. COLLECTOR NOT AVAILABLE TO RELINQUISH SAMPLES ON 12/3/01 FOR SHIPMENT.				S=Soil SB=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue Wt=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From R. Fahlberg	Date/Time 11-29-01 0900	Received By/Stored In R. Fahlberg	Date/Time 11-29-01 0900					
Relinquished By/Removed From R. Fahlberg	Date/Time 11-29-01 0900	Received By/Stored In R. Fahlberg	Date/Time 11-29-01 0900					
Relinquished By/Removed From FEDEX	Date/Time 12-4-01 0945	Received By/Stored In Cals Ag	Date/Time 12-4-01 0945					
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time					
LABORATORY SECTION	Received By	Title		Date/Time				
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By		Date/Time				

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			B99-093-38	Page 1 of 1
Collector R Fahlberg	Company Contact Virginia Rohay	Telephone No. 372-9100	Project Coordinator TRENT, SJ	Price Code 9N	Data Turnaround 45 Days	
Project Designation 200-ZP-2 Passive Soil Vapor Extraction - Other Solid	Sampling Location 200 West	SAF No. B99-093	Air Quality <input type="checkbox"/>			
Ice Chest No. ERC-02-010	Field Logbook No. EL 1517-2	COA R20ZP2DP60	Method of Shipment Federal Express			
Shipped To TMA/RECRA	Offsite Property No. A020845	Bill of Lading/Air-Bill No. 42357954-9438				

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	Cool 4C																		
	Type of Container	aG																		
	No. of Container(s)	1																		
	Volume	250mL																		

SPECIAL HANDLING and/or Storage																				
SAMPLE ANALYSIS																				

Sample No.	Matrix *	Sample Date	Sample Time																		
B13LL7	OTHER SOLID	11-29-01	1036	X																	
B13LL8	OTHER SOLID	11-29-01	1042	X																	
B13LL9	OTHER SOLID																				
B13LL0	OTHER SOLID																				

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R. Fahlberg	11-29-01 1230	R. Fahlberg	11-29-01 1230
R. O. ZA	12-30-01 0900	R. Fahlberg	12-30-01 0900
R. Fahlberg	12-30-01 0900	R. Fahlberg	12-30-01 0900
FEDEX	12-4-01 0945	Calvin Hamel	12-4-01 0945
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

** Laboratory may use medium level preparation for VOA. They are to report any other halogenated compounds found.

** Laboratory must include the % Moisture data as part of all hard copy reports.

Samples did not originate in radiological controlled area. No total activity associated with sample/samples.

SAMPLES STORED IN REF.# 2A AT THE 3728 SHIPPING FACILITY ON 11/29/01. COLLECTOR NOT AVAILABLE TO RELINQUISH SAMPLES ON 12/3/01 FOR SHIPMENT.

RT 12-3-01

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

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: 12-4-01 0945

SDG#: 0112L506

Work Order Number: _____

SAF# B99-093

Shipping Container ID: ERC-02010

Chain of Custody # B99-093-37

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 1.8°
5. Vermiculite/packing materials is Wet Dry
6. Number of samples in shipping container: 14
7. Sample holding times exceeded? Yes No

8. Samples have: <input checked="" type="checkbox"/> tape <input checked="" type="checkbox"/> custody seals	<input type="checkbox"/> hazard labels <input type="checkbox"/> appropriate sample labels
9. Samples are: <input checked="" type="checkbox"/> in good condition <input type="checkbox"/> broken	<input type="checkbox"/> leaking <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: Calo Hymf Date: 12-4-01

Telephoned to: _____ On _____ By _____