0059400

SAF-B03-017
Remaining Sites Confirmation Sampling-Other Solid
FINAL DATA PACKAGE

E:MAIL RESULTS TO:

Ella Feist	N/A INITIAL/DATE
Mike Stankovich	N/A INITIAL/DATE

MAIL COMPLETE COPY OF DATA PACKAGE TO:

Ella Feist	H9-01	BJ 4/17 INITIAL/DATE
Mike Stankovich	H9-02	BJ 4/17 INITIAL/DATE
Jeanette Duncan		BJ 4/17 INITIAL/DATE

COMMENTS: (PLEASE INCLUDE THE FOLLOWING ON THE COVER SHEET)

SDG H2118 SAF-B03-017

Rad only Chem only X Rad & Chem

X Complete Partial

Sample Location/Waste Site: 128-C-1

RECEIVED
MAY 19 2003
EDMC

LIONVILLE LABORATORY INC.

11 April 2003

RECEIVED APR 2003

Joan Kessner
Bechtel-Hanford, Inc.
3190 Washington Way
MSIN H9-03
Richland, WA 99352

Subject: Contract No. 630
Analytical Data Package

Dear Ms. Kessner:

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

LvLI Batch #	0303L059
SDG #	H2118
SAF #	B03-017
Date Received	3-28-03
# Samples	4
Matrix	Other Solid
Volatiles	X
Semivolatiles	X
Pest/PCB	X
DRO/KRO/GRO	
GC Alcohols	
Metals	X
Inorganics	X

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

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager

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

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

RECEIVED
APR 2003

Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-017 H2118

DATE RECEIVED: 03/28/03 LVL LOT # :0303L059

CLIENT ID	LVL #		MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00K90	001	M1	OI	03LVX090	03/25/03	N/A	04/01/03
J00K91	004	M1	SO	03LVX090	03/25/03	N/A	04/01/03
J00K91	004 MS	M1	SO	03LVX090	03/25/03	N/A	04/01/03
J00K91	004 MSD	M1	SO	03LVX090	03/25/03	N/A	04/01/03

LAB QC:

VBLKNN	MB1		S	03LVX090	N/A	N/A	04/01/03
VBLKNN	MB1 BS		S	03LVX090	N/A	N/A	04/01/03

LIONVILLE LABORATORY INC.

Client: TNU-HANFORD B03-017
LVL #: 0303L059
SDG/SAF # H2118/B03-017

W.O. #: 11343-606-001-9999-00
Date Received: 03-28-2003

GC/MS VOLATILE

One (1) solid and one (1) oil samples were collected on 03-25-2003.

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 TCL volatile target compounds on 04-01-2003.

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

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

2. Samples were analyzed within holding time.

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

4. Samples were analyzed medium level due to the tar and charcoal like sample matrix. Low-level analysis of these samples would have caused instrument malfunction; therefore, samples were analyzed medium level. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

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 blank contained the common laboratory contaminant Methylene Chloride at a level less than the CRQL.

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."

for J. Michael Taylor
President
Lionville Laboratory Incorporated

04-07-03
Date

som\group\data\voa\tnu-hanford\0303-059.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 6 pages.

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

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 03VT042

Initiator: M Schneider
Date: 4/1/03
Client: TNU Hanford

Batch: 03031-059
Samples: 001, 004
Method: SW846/MCAWW/CLP/

Parameter: 0624
Matrix: Solid
Prep Batch: —

1. Reason for SDR

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

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

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

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

001: Tar-like; 004: charcoal-like.

Samples were analyzed 'medium' due to their matrix & odor. Both had significant TICs @ medium level, but minimal targets. ~~Reanalysis~~ Reanalysis at low level would cause considerable contamination cleanup. +BW.

2. Known or Probable Causes(s)

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

Other Description:

We would like to report the medium runs (and not analyze low)

[signature] 4/2/03

4. Project Manager Instructions...signature/date: [signature] 4/2/03
__ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
✓ Client Contacted:
Date/Person John Lessner 4/2/03
__ Add
__ Cancel

5. Final Action...signature/date: [signature] 4/4/03
Verified re-[log][leach][extract][digest][analysis] (circle)
X Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

Other Explanation:

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

Route	Distribution of Completed SDR	Route	Distribution of Completed SDR
2	X Initiator MB	__	__ Metals: Beegle
__	X Lab General Manager: M. Taylor	__	__ Inorganic: Perrone
__	X Project Mgr: Stone/Johnson/Haslett	__	__ GC/LC: Kiger
1	X Technical Mgr: Wesson/Daniels	__	__ MS: Rychlak/Layman
__	X QA (file)	__	__ Log-in: Melnic
__	__ Data Management: Feldman	__	__ Admin: Soos
__	__ Sample Prep: Beegle/Kiger	__	__ Other: _____

QA-105-A-0801

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.
Volatiles by GC/MS, HSL List

Report Date: 04/04/03 14:32

RFW Batch Number: 0303L059 Client: TNUHANFORD B03-017 H2118 Work Order: 11343606001 Page: 1a

	Cust ID:	J00K90		J00K91		J00K91		J00K91		VBLKNN		VBLKNN BS	
Sample Information	RFW#:	001		004		004 MS		004 MSD		03LVX090-MB1		03LVX090-MB1	
	Matrix:	OIL		SOLID		SOLID		SOLID		SOIL		SOIL	
	D.F.:	2.00		2.16		2.05		2.05		2.00		2.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
	Level:	MED		MED		MED		MED		MED		MED	
Surrogate Recovery	Toluene-d8	93	%	98	%	92	%	90	%	95	%	91	%
	Bromofluorobenzene	96	%	90	%	91	%	82	%	91	%	89	%
	1,2-Dichloroethane-d4	83	%	82	%	81	%	82	%	86	%	82	%
			fl		fl		fl		fl		fl		fl
Chloromethane		1300	U	1400	U	1400	U	1400	U	1200	U	1200	U
Bromomethane		1300	U	1400	U	1400	U	1400	U	1200	U	1200	U
Vinyl Chloride		1300	U	1400	U	1400	U	1400	U	1200	U	1200	U
Chloroethane		1300	U	1400	U	1400	U	1400	U	1200	U	1200	U
Methylene Chloride		430	BJ	400	BJ	350	BJ	370	BJ	150	J	290	BJ
Acetone		1300	U	1400	U	1400	U	1400	U	1200	U	1200	U
Carbon Disulfide		670	U	720	U	680	U	680	U	620	U	620	U
1,1-Dichloroethene		670	U	720	U	89	%	91	%	620	U	97	%
1,1-Dichloroethane		670	U	720	U	680	U	680	U	620	U	620	U
1,2-Dichloroethene (total)		670	U	720	U	680	U	680	U	620	U	620	U
Chloroform		670	U	720	U	680	U	680	U	620	U	620	U
1,2-Dichloroethane		670	U	720	U	680	U	680	U	620	U	620	U
2-Butanone		1300	U	1400	U	1400	U	1400	U	1200	U	1200	U
1,1,1-Trichloroethane		670	U	720	U	680	U	680	U	620	U	620	U
Carbon Tetrachloride		670	U	720	U	680	U	680	U	620	U	620	U
Bromodichloromethane		670	U	720	U	680	U	680	U	620	U	620	U
1,2-Dichloropropane		670	U	720	U	680	U	680	U	620	U	620	U
cis-1,3-Dichloropropene		670	U	720	U	680	U	680	U	620	U	620	U
Trichloroethene		670	U	720	U	79	%	83	%	620	U	87	%
Dibromochloromethane		670	U	720	U	680	U	680	U	620	U	620	U
1,1,2-Trichloroethane		670	U	720	U	680	U	680	U	620	U	620	U
Benzene		670	U	720	U	92	%	97	%	620	U	102	%
Trans-1,3-Dichloropropene		670	U	720	U	680	U	680	U	620	U	620	U
Bromoform		670	U	720	U	680	U	680	U	620	U	620	U
4-Methyl-2-pentanone		1300	U	1400	U	1400	U	1400	U	1200	U	1200	U
2-Hexanone		1300	U	1400	U	1400	U	1400	U	1200	U	1200	U
Tetrachloroethene		670	U	720	U	680	U	680	U	620	U	620	U
1,1,2,2-Tetrachloroethane		670	U	720	U	680	U	680	U	620	U	620	U
Toluene		330	J	720	U	90	%	92	%	620	U	97	%

*= Outside of EPA CLP QC limits.

RFW Batch Number: 0303L059 Client: TNUHANFORD B03-017 H2118 Work Order: 11343606001 Page: 1b

Cust ID:	J00K90		J00K91		J00K91		J00K91		VBLKNN		VBLKNN BS	
RFW#:	001		004		004 MS		004 MSD		03LVX090-MB1		03LVX090-MB1	
Level:	MED		MED		MED		MED		MED		MED	
Chlorobenzene	670	U	720	U	84	%	87	%	620	U	91	%
Ethylbenzene	210	J	720	U	680	U	680	U	620	U	620	U
Styrene	670	U	720	U	680	U	680	U	620	U	620	U
Xylene (total)	690		720	U	680	U	680	U	620	U	620	U

*= Outside of EPA CLP QC limits.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J00K90

Lab Name: Lionville Labs, Inc. Contract: 11343606001

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

Matrix: (soil/water) OIL Lab Sample ID: 0303L059-001

Sample wt/vol: 4.00 (g/mL) G Lab File ID: x040108

Level: (low/med) MED Date Received: 03/28/03

% Moisture: not dec. 7 Date Analyzed: 04/01/03

Column: (pack/cap) CAP Dilution Factor: 2.00

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C3-ALKYLBENZENE	17.753	900	J
2.	AROMATIC	19.356	900	J
3.	UNKNOWN	21.395	800	J
4. 91203	NAPHTHALENE	22.318	10000	JN
5.	METHYLNAPHTHALENE	24.322	2000	J
6.	UNKNOWN	24.723	1000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J00K91

Lab Name: Lionville Labs, Inc. Contract: 11343606001

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

Matrix: (soil/water) SOLID Lab Sample ID: 0303L059-004

Sample wt/vol: 3.70 (g/mL) G Lab File ID: x040107

Level: (low/med) MED Date Received: 03/28/03

% Moisture: not dec. 6 Date Analyzed: 04/01/03

Column: (pack/cap) CAP Dilution Factor: 2.16

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 110543	HEXANE	6.218	60000	NJ
2.	CYCLOALKANE	7.281	2000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKNN

Lab Name: Lionville Labs, Inc. Contract: 11343606001

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

Matrix: (soil/water) SOIL Lab Sample ID: 03LVX090-MB1

Sample wt/vol: 4.00 (g/mL) G Lab File ID: x040105

Level: (low/med) MED Date Received: 04/01/03

% Moisture: not dec. 0 Date Analyzed: 04/01/03

Column: (pack/cap) CAP Dilution Factor: 2.00

Number TICs found: 0

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

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

FORM 1 VOA-TIC 1/87 Rev.

11

Lionville Laboratory Use Only: 03031059

Custody Transfer Record/Lab Work Request

Page 1 of ___

LVL Lionville Laboratory Inc

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU Hanford 803-017
Est. Final Proj. Sampling Date:
Project #: 11343-0006-001-9999-00
Project Contact/Phone #:
Lionville Laboratory Project Manager: Arlotte Johnson
QC: Spec Del: Std TAT: 7 days

Date Rec'd: 3-28-03 Date Due: 4-4-03

		A	B	C	D	E	F
Refrigerator #		1	6	6	6	6	6
#/Type Container	Liquid						
	Solid	1 aq	1 aq	1 aq	1 aq	1 aq	1 aq
Volume	Liquid						
	Solid	60	120	120	60	60	60
Preservatives		—	—	—	—	—	—
ANALYSES REQUESTED		ORGANIC: VOA	BNA	Pest/PCB	Herb	INORG: Metal (2)	CN
						Metals (3)	TPH
Lionville Laboratory Use Only		OZ2NH	OZ2SH	OZ0BH OZ0SH		Met (1)	ITCLP
							ITPHC

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	OZ2NH	OZ2SH	OZ0BH OZ0SH		Met (1)	ITCLP	ITPHC	Met (1)
001	J00K90			~~SO~~ S	3-25-03	0840	X	X	X					
002	J00JW3			SO		0910		X	X		X	X	X	
003	J00JW4					L		X	X		X	X	X	
004	J00K91					1445	X	X	X		X			
005	J00JW3 tcpof 002			L	*	*								✓
006	4 003													✓
~~007~~														

TL 3/28/03

Special Instructions: Saf # 803-017
Run Matrix QC
Met (1): As, Ba, Cd, Cr, Pb, Se, Ag, Hg
* See labchron

DATE/REVISIONS:
1. #001 BNA, P/PCB analysis=
2. 1 120ml glass.
4-1-03 3. Sample -001 change Matrix to Oil
4.
5.
6.

Lionville Laboratory Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___
Airbill # 7928 5817 2102
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. 2.8 °C

Relinquished by	Received by	Date	Time
FedEx	D Smith	3-28-03	0930

Relinquished by	Received by	Date	Time
COMPOSITE WASTE			

ORIGINAL REWRITTEN

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

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B03-017-028	Page 1 of 1
Collector R FAHLBERG	Company Contact M STANKOVICH	Telephone No. 372-9082	Project Coordinator KESSNER, JH	Price Code 9C Air Quality ☐
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017	Data Turnaround 7 Days
Ice Chest No. ERC 02 407	Field Logbook No. EL 1577	COA	Method of Shipment Fed Ex	
Shipped To TMA/RECRA	Offsite Property No. ~~NA~~ A030172		Bill of Lading/Air Bill No. ~~NA~~ SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	Cool 4C	Cool 4C	Cool 4C									
Type of Container	aG	aG	G									
No. of Container(s)	1	~~1~~ 0	1									
Volume	~~120g~~ 120ml	~~125g~~ 120ml	~~20g~~ 60ml	RJN 3/27/03								
SAMPLE ANALYSIS	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)									

Sample No.	Matrix *	Sample Date	Sample Time										
J00K90	OTHER SOLID	3.25.03	0840	X	X	X							
~~J00K91~~	~~OTHER SOLID~~	~~3.25.03~~	~~1445~~										
RF 3.29.03													

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: R. Fahlberg	Date/Time: 1630 3.25.03	Received By/Stored In: 3B 3728	Date/Time: 1630 3.25.03
Relinquished By/Removed From: 3B 3728	Date/Time: 32703 1000	Received By/Stored In: S.J GALE	Date/Time: 32703 1000
Relinquished By/Removed From: S.J GALE	Date/Time: 32703 1000	Received By/Stored In: FED EX	Date/Time:
Relinquished By/Removed From: Fed Ex	Date/Time: 3.28.03 0930	Received By/Stored In: [signature]	Date/Time: 3.28.03 0930
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

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=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 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B03-017-21	Page 1 of 1
Collector Fahlberg	Company Contact M Stankovich	Telephone No. 372-9082	Project Coordinator KESSNER, JH	Price Code 9C Air Quality ☐
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017	Data Turnaround 7 Days
Ice Chest No. ERC 02 407	Field Logbook No. EL 1577	COA C17HXB671C	Method of Shipment Fed EX	
Shipped To TMA/RECRA	Offsite Property No. A030172		Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially Radioactive

Special Handling and/or Storage

Preservation			None	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container			aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)			1	1	1	1	1	1	1			
Volume			1000mL	60mL	60mL	120mL	120mL	60mL	60mL			
SAMPLE ANALYSIS			See item (1) in Special Instructions.	See item (2) in Special Instructions.	See item (3) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL) RJN 3/26/03	TPH (Total) - 418.1			
Sample No.	Matrix *	Sample Date	Sample Time									
J00JW3	OTHER SOLID	3·25·03	0910	X	X	X	X	X	X	X		
J00JW4	OTHER SOLID	3·25·03	0910	X	X	X	X	X	X RJN 3/26/03	X		

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R. Fahlberg	1630 3·25·03	3B 3728	1630 3·25·03
3B 3728	32703 1000	SJGALE	32703 1000
SJGALE	32703 1000	FED EX	
Fed Ex	3·28·03 0930		3·28·03 0930

SPECIAL INSTRUCTIONS

(1) ~~Americium-241;~~ Gamma Spectroscopy (TCL List) [Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155]; Gross Alpha & Gross Beta; ~~Nickel-63; Isotopic Plutonium [Plutonium-238, Plutonium-239/240]; Strontium-89,90 - Total Sr; Technetium-99; Isotopic Uranium [Uranium-233/234, Uranium-235, Uranium-238]~~ 3/26/03 RJN

(2) ICP Metals - 6010TR (Client List) [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury - 7471 - (CV)

(3) Metals by ICP (TCLP) - 1311/6010 [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury (TCLP) - 1311/7470

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

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

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

BHI-EE-011 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B03-017-38	Page 1 of 1

Collector: R FAHLBERG	Company Contact: M STANKOVICH	Telephone No.: 372-9082	Project Coordinator: KESSNER, JH
Price Code: 9C	Data Turnaround: 7 Days	Air Quality ☐	
Project Designation: Remaining Sites Confirmation Sampling-Other Solid	Sampling Location: 128-C-1		SAF No.: B03-017
Ice Chest No.: ERC 02-407	Field Logbook No.: EL 1577	COA: C17HXB671C	Method of Shipment: Fed Ex
Shipped To: TMA/RECRA	Offsite Property No.: ~~NA~~ A030172		Bill of Lading/Air Bill No.: ~~NA~~ SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	None	None	Cool 4C	Cool 4C	Cool 4C						
Type of Container	aG	aG	aG	aG	G						
No. of Container(s)	1	1	1	1	1						
Volume	1000mL	60mL	120g	125g	20g						
SAMPLE ANALYSIS	See item (1) in Special Instructions. 32703	See item (2) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)						

Sample No.	Matrix *	Sample Date	Sample Time										
J00K91	OTHER SOLID	3-25-03	1145	X	X	X	X	X					

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R. Fahlberg R. Fahlberg	1630 3-25-03	3B 3728	1630 3-25-03
3B 3728 32703	1000	SJ Gale	32703 1000
SJ Gale	32703 1000	FED EX	
FED EX	3-28-03 0930		3-28-03 0930

SPECIAL INSTRUCTIONS

(1) ~~Americium-241~~; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta; ~~Nickel-63, Isotopic Plutonium {Plutonium-238, Plutonium-239/240}, Strontium-89,90, Total Sr, Technetium-99, Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238}~~ RJN 3/27/03

(2) ICP Metals - 6010TR (Client List) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *

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

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

BHI-EE-011 (03/01/2002)

LIONVILLE LABORATORY INCORPORATED
SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hanford

Purchase Order/Project:

DATE: 3-28-03

SAF#/ SOW# / Release #: B03-017

Laboratory SDG #: Q3C3L059

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

1. Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
2. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
3. Airbill # recorded?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
5. Sample containers are intact?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
7. All samples on coc received?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
8. All sample label information matches coc?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	☐ No	☑ N/A	☐ see Comment #
10. Shipment meets LvLI Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
11. Where applicable, bar code labels are affixed to coc?	☐ Yes	☐ No	☑ N/A	☐ see Comment #
12. coc signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
13. coc will be faxed or emailed to client?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
14. Project Manager/Client contacted concerning discrepancies? (name/date)	☐ Yes	☐ No	☑ N/A	☐ see Comment #

Cooler # / temp (°C) and Comments:

CRC 02-407 / 2.8°C

Laboratory Sample Custodian: [illegible signature]

Laboratory Project Manager:

RECEIVED
APR 2003

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-017 H2118

DATE RECEIVED: 03/28/03 LVL LOT # :0303L059

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00K90	001	OI	03LE0383	03/25/03	04/01/03	04/04/03
J00K90	001 MS	OI	03LE0383	03/25/03	04/01/03	04/04/03
J00K90	001 MSD	OI	03LE0383	03/25/03	04/01/03	04/04/03
J00JW3	002	SO	03LE0377	03/25/03	03/31/03	04/04/03
J00JW3	002 MS	SO	03LE0377	03/25/03	03/31/03	04/04/03
J00JW3	002 MSD	SO	03LE0377	03/25/03	03/31/03	04/04/03
J00JW4	003	SO	03LE0377	03/25/03	03/31/03	04/04/03
J00K91	004	SO	03LE0377	03/25/03	03/31/03	04/04/03
LAB QC:						
SBLKQM	MB1	S	03LE0383	N/A	04/01/03	04/04/03
SBLKQM	MB1 BS	S	03LE0383	N/A	04/01/03	04/04/03
SBLKQK	MB1	S	03LE0377	N/A	03/31/03	04/03/03
SBLKQK	MB1 BS	S	03LE0377	N/A	03/31/03	04/03/03

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B03-017
LVL #: 0303L059
SDG/SAF # H2118/B03-017

W.O. #: 11343-606-001-9999-00
Date Received: 03-28-03

SEMIVOLATILE

The set of samples consisted of one (1) oil and three (3) solid samples collected on 03-25-03.

The samples and their associated QC samples were extracted according to Lionville Laboratory OPs based on methods 3550 and 3580A (waste dilution protocol, 1 g into 100 mLs DCM) on 03-31-03, 04-01-03 and analyzed according to criteria set forth in Lionville Laboratory OPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 04-03,04-03.

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

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 required holding time.

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

4, Samples J00K91, J00K90 and its matrix QC required 10 to 25 fold dilutions due to the high level of non-target compounds. An elevated final volume of 10 mLs and 100 mLs instead of 1 mL for sample J00K91 and J00K90, respectively, has been used due to the sample matrix. Copies of the Sample Extraction Records have been enclosed.

5. Three (3) of sixty-six (66) obtainable surrogate recoveries were outside EPA QC limits. However, EPA CLP surrogate recovery criteria were met (i.e., no more than one outlier per fraction {acid and base neutral} and no recoveries less than 10%).

6. Eleven (11) of forty-four (44) matrix spike recoveries were outside EPA QC limits.

7. Three (3) of twenty-two (22) blank spike recoveries was outside EPA QC limits.

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

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 23 pages (includes 18A).

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9. Manual integrations are performed according to OP 21-06A-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").

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

04-10-03
Date

pef\gorup\data\bna\tnu-hanford-03-059.doc

LVLI
LIONVILLE LABORATORY INC.

GLOSSARY

DATA QUALIFIERS

U	=	Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
J	=	Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
B	=	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
D	=	Identifies all compounds identified in an analysis at a secondary dilution factor.
I	=	Interference.
NQ	=	Result qualitatively confirmed but not able to quantify.
A	=	Indicates that a TIC is a suspected aldol-condensation product.
N	=	Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
X	=	This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
Y	=	Additional qualifiers used as required are explained in the case narrative.

GLOSSARY

ABBREVIATIONS

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

TECHNICAL FLAGS FOR MANUAL INTEGRATION

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

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

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

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

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

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

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

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 04/08/03 17:11

RFW Batch Number: **0303L059** Client: **TNUHANFORD B03-017 H2118** Work Order: 11343606001 Page: 1a

	Cust ID:	J00K90	J00K90	J00K90	J00JW3	J00JW3	J00JW3
Sample Information	RFW#:	001	001 MS	001 MSD	002	002 MS	002 MSD
	Matrix:	OIL	OIL	OIL	SOLID	SOLID	SOLID
	D.F.:	2000	2000	2000	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	118 %	112 %	113 %	83 %	81 %	74 %
	2-Fluorobiphenyl	123 * %	116 * %	117 * %	87 %	85 %	87 %
	Terphenyl-d14	117 %	110 %	108 %	117 %	111 %	118 %
	Phenol-d5	105 %	102 %	102 %	88 %	86 %	87 %
	2-Fluorophenol	104 %	98 %	97 %	84 %	83 %	81 %
	2,4,6-Tribromophenol	85 %	86 %	86 %	76 %	88 %	110 %
		fl	fl	fl	fl	fl	fl
Phenol		0.22E+08 U	106 * %	101 * %	380 U	84 %	83 %
bis(2-Chloroethyl)ether		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
2-Chlorophenol		0.22E+08 U	108 * %	105 * %	380 U	85 %	82 %
1,3-Dichlorobenzene		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
1,4-Dichlorobenzene		0.22E+08 U	126 * %	124 * %	380 U	77 %	67 %
1,2-Dichlorobenzene		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
2-Methylphenol		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
2,2'-oxybis(1-Chloropropane)		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
3- and/or 4-Methylphenol		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
N-Nitroso-di-n-propylamine		0.22E+08 U	123 %	120 %	380 U	97 %	92 %
Hexachloroethane		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
Nitrobenzene		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
Isophorone		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
2-Nitrophenol		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
2,4-Dimethylphenol		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
bis(2-Chloroethoxy)methane		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
2,4-Dichlorophenol		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
1,2,4-Trichlorobenzene		0.22E+08 U	114 * %	113 * %	380 U	82 %	77 %
Naphthalene		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
4-Chloroaniline		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
Hexachlorobutadiene		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
4-Chloro-3-methylphenol		0.22E+08 U	92 %	95 %	380 U	91 %	99 %
2-Methylnaphthalene		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
Hexachlorocyclopentadiene		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
2,4,6-Trichlorophenol		0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
2,4,5-Trichlorophenol		0.54E+08 U	0.54E+08 U	0.54E+08 U	950 U	950 U	950 U

*= Outside of EPA CLP QC limits.

RFW Batch Number: 0303L059 Client: TNUHANFORD B03-017 H2118 Work Order: 11343606001 Page: 1b

Cust ID:	J00K90	J00K90	J00K90	J00JW3	J00JW3	J00JW3
RFW#:	001	001 MS	001 MSD	002	002 MS	002 MSD
2-Chloronaphthalene	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
2-Nitroaniline	0.54E+08 U	0.54E+08 U	0.54E+08 U	950 U	950 U	950 U
Dimethylphthalate	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
Acenaphthylene	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
2,6-Dinitrotoluene	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
3-Nitroaniline	0.54E+08 U	0.54E+08 U	0.54E+08 U	950 U	950 U	950 U
Acenaphthene	0.22E+08 U	137 %	135 %	380 U	85 %	86 %
2,4-Dinitrophenol	0.54E+08 U	0.54E+08 U	0.54E+08 U	950 U	950 U	950 U
4-Nitrophenol	0.54E+08 U	54 %	56 %	950 U	103 %	102 %
Dibenzofuran	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	38 J	380 U
2,4-Dinitrotoluene	0.22E+08 U	99 * %	99 * %	380 U	89 %	90 * %
Diethylphthalate	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
4-Chlorophenyl-phenylether	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
Fluorene	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
4-Nitroaniline	0.54E+08 U	0.54E+08 U	0.54E+08 U	950 U	950 U	950 U
4,6-Dinitro-2-methylphenol	0.54E+08 U	0.54E+08 U	0.54E+08 U	950 U	950 U	950 U
N-Nitrosodiphenylamine (1)	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
4-Bromophenyl-phenylether	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
Hexachlorobenzene	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
Pentachlorophenol	0.54E+08 U	77 %	81 %	950 U	82 %	93 %
Phenanthrene	5600000 J	5200000 J	5200000 J	380 U	450	34 J
Anthracene	1400000 J	1300000 J	1300000 J	380 U	88 J	380 U
Carbazole	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	45 J	380 U
Di-n-butylphthalate	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	38 J
Fluoranthene	5400000 J	4800000 J	4900000 J	27 J	330 J	40 J
Pyrene	4400000 J	113 %	105 %	22 J	112 %	103 %
Butylbenzylphthalate	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
3,3'-Dichlorobenzidine	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
Benzo(a)anthracene	1900000 J	1900000 J	1900000 J	380 U	110 J	53 J
Chrysene	2200000 J	2000000 J	2000000 J	26 J	110 J	59 J
bis(2-Ethylhexyl)phthalate	0.22E+08 U	0.22E+08 U	0.22E+08 U	28 J	27 J	44 J
Di-n-octyl phthalate	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
Benzo(b)fluoranthene	1400000 J	1300000 J	1300000 J	380 U	68 J	35 J
Benzo(k)fluoranthene	1100000 J	1200000 J	0.22E+08 U	380 U	74 J	33 J
Benzo(a)pyrene	1500000 J	1400000 J	1400000 J	380 U	56 J	26 J
Indeno(1,2,3-cd)pyrene	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	34 J	380 U
Dibenz(a,h)anthracene	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	380 U	380 U
Benzo(g,h,i)perylene	0.22E+08 U	0.22E+08 U	0.22E+08 U	380 U	37 J	21 J

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

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 04/08/03 17:11

RFW Batch Number: 0303L059 Client: TNUHANFORD B03-017 H2118 Work Order: 11343606001 Page: 2a

60

	Cust ID:	J00JW4		J00K91		SBLKQM		SBLKQM BS		SBLKQK		SBLKQK BS	
Sample Information	RFW#:	003		004		03LE0383-MB1		03LE0383-MB1		03LE0377-MB1		03LE0377-MB1	
	Matrix:	SOLID		SOLID		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		250		200		200		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Nitrobenzene-d5	76	%	D	%	110	%	107	%	73	%	72	%
	2-Fluorobiphenyl	83	%	D	%	103	%	104	%	83	%	81	%
	Terphenyl-d14	121	%	D	%	116	%	117	%	109	%	108	%
	Phenol-d5	80	%	D	%	110	%	107	%	79	%	78	%
	2-Fluorophenol	81	%	D	%	112	%	110	%	82	%	79	%
	2,4,6-Tribromophenol	79	%	D	%	79	%	102	%	88	%	90	%
		fl		fl		fl		fl		fl		fl	
Phenol		380	U	510000	U	2000000	U	104 *	%	330	U	74	%
bis(2-Chloroethyl)ether		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
2-Chlorophenol		380	U	510000	U	2000000	U	110 *	%	330	U	80	%
1,3-Dichlorobenzene		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
1,4-Dichlorobenzene		380	U	510000	U	2000000	U	102	%	330	U	72	%
1,2-Dichlorobenzene		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
2-Methylphenol		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
2,2'-oxybis(1-Chloropropane)		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
3- and/or 4-Methylphenol		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
N-Nitroso-di-n-propylamine		380	U	510000	U	2000000	U	116	%	330	U	86	%
Hexachloroethane		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Nitrobenzene		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Isophorone		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
2-Nitrophenol		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
2,4-Dimethylphenol		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
bis(2-Chloroethoxy)methane		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
2,4-Dichlorophenol		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
1,2,4-Trichlorobenzene		380	U	510000	U	2000000	U	95	%	330	U	72	%
Naphthalene		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
4-Chloroaniline		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Hexachlorobutadiene		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
4-Chloro-3-methylphenol		380	U	510000	U	2000000	U	103	%	330	U	81	%
2-Methylnaphthalene		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Hexachlorocyclopentadiene		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
2,4,6-Trichlorophenol		380	U	510000	U	2000000	U	2000000	U	330	U	330	U
2,4,5-Trichlorophenol		950	U	1300000	U	5000000	U	5000000	U	830	U	830	U

*= Outside of EPA CLP QC limits.

10

Cust ID:	J00JW4		J00K91		SBLKQM		SBLKQM BS		SBLKQK		SBLKQK BS	
RFW#:	003		004		03LE0383-MB1		03LE0383-MB1		03LE0377-MB1		03LE0377-MB1	
2-Chloronaphthalene	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
2-Nitroaniline	950	U	1300000	U	5000000	U	5000000	U	830	U	830	U
Dimethylphthalate	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Acenaphthylene	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
2,6-Dinitrotoluene	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
3-Nitroaniline	950	U	1300000	U	5000000	U	5000000	U	830	U	830	U
Acenaphthene	380	U	510000	U	2000000	U	100	%	330	U	80	%
2,4-Dinitrophenol	950	U	1300000	U	5000000	U	5000000	U	830	U	830	U
4-Nitrophenol	950	U	1300000	U	5000000	U	94	%	830	U	96	%
Dibenzofuran	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
2,4-Dinitrotoluene	380	U	510000	U	2000000	U	94 *	%	330	U	80	%
Diethylphthalate	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
4-Chlorophenyl-phenylether	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Fluorene	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
4-Nitroaniline	950	U	1300000	U	5000000	U	5000000	U	830	U	830	U
4,6-Dinitro-2-methylphenol	950	U	1300000	U	5000000	U	5000000	U	830	U	830	U
N-Nitrosodiphenylamine (1)	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
4-Bromophenyl-phenylether	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Hexachlorobenzene	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Pentachlorophenol	950	U	1300000	U	5000000	U	77	%	830	U	87	%
Phenanthrene	100	J	510000	U	2000000	U	2000000	U	330	U	330	U
Anthracene	66	J	510000	U	2000000	U	2000000	U	330	U	330	U
Carbazole	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Di-n-butylphthalate	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Fluoranthene	120	J	510000	U	2000000	U	2000000	U	330	U	330	U
Pyrene	130	J	510000	U	2000000	U	113	%	330	U	96	%
Butylbenzylphthalate	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
3,3'-Dichlorobenzidine	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Benzo(a)anthracene	69	J	510000	U	2000000	U	2000000	U	330	U	330	U
Chrysene	89	J	510000	U	2000000	U	2000000	U	330	U	330	U
bis(2-Ethylhexyl)phthalate	37	J	510000	U	2000000	U	2000000	U	330	U	330	U
Di-n-octyl phthalate	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Benzo(b)fluoranthene	50	J	510000	U	2000000	U	2000000	U	330	U	330	U
Benzo(k)fluoranthene	36	J	510000	U	2000000	U	2000000	U	330	U	330	U
Benzo(a)pyrene	35	J	510000	U	2000000	U	2000000	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Dibenz(a,h)anthracene	380	U	510000	U	2000000	U	2000000	U	330	U	330	U
Benzo(g,h,i)perylene	380	U	510000	U	2000000	U	2000000	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.

J00K90

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

Client: TNUHANFORD B03-017 H2118

Matrix: (soil/water) OIL

Lab Sample ID: 0303L059-001

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: D040404

Level: (low/med) LOW

Date Received: 03/28/03

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

Date Extracted: 04/01/03

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/04/03

Injection Volume: 2.0(uL)

Dilution Factor: 2000

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 0

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

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

FORM 1 SV-TIC

RFW (v3.3)

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J00JW3

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

Client: TNUHANFORD B03-017 H2118

Matrix: (soil/water) SOLID

Lab Sample ID: 0303L059-002

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

Lab File ID: A040405

Level: (low/med) LOW

Date Received: 03/28/03

% Moisture: 12 decanted: (Y/N)__

Date Extracted: 03/31/03

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/04/03

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.437	30000	JAB
2.	ALDOL CONDENSATE	7.788	200	JA
3.	UNKNOWN	16.664	200	JB
4.	UNKNOWN	22.381	200	J
5.	UNKNOWN	23.499	200	J
6.	ALKANE	23.539	200	J
7.	ALKANE	24.190	200	J
8.	ALKANE	24.941	200	J
9.	ALKANE	25.812	200	J
10.	ALKANE	28.075	200	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J00JW4

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

Client: TNUHANFORD B03-017 H2118

Matrix: (soil/water) SOLID

Lab Sample ID: 0303L059-003

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

Lab File ID: A040408

Level: (low/med) LOW

Date Received: 03/28/03

% Moisture: 13 decanted: (Y/N)__

Date Extracted: 03/31/03

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/04/03

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 79-00-5	1,1,2-TRICHLOROETHANE	4.832	100	JN
2.	ALDOL CONDENSATE	5.794	200	JAB
3.	ALDOL CONDENSATE	6.413	30000	JAB
4. 79-34-5	1,1,2,2-TETRACHLOROETHANE	7.791	200	JN
5.	UNKNOWN	16.667	200	JB
6.	ALKANE	28.063	100	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J00K91

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

Client: TNUHANFORD B03-017 H2118

Matrix: (soil/water) SOLID

Lab Sample ID: 0303L059-004

Sample wt/vol: 5.23 (g/mL) G

Lab File ID: A040409

Level: (low/med) LOW

Date Received: 03/28/03

% Moisture: 6 decanted: (Y/N)__

Date Extracted: 03/31/03

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/04/03

Injection Volume: 2.0(uL)

Dilution Factor: 250

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	6.235	200000	JAB
2.	UNKNOWN	34.536	100000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKQM

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

Client: TNUHANFORD B03-017 H2118

Matrix: (soil/water) SOIL

Lab Sample ID: 03LE0383-MB1

Sample wt/vol: 1.00 (g/mL) G

Lab File ID: A040403

Level: (low/med) LOW

Date Received: 04/01/03

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

Date Extracted: 04/01/03

Concentrated Extract Volume: 500(uL)

Date Analyzed: 04/04/03

Injection Volume: 2.0(uL)

Dilution Factor: 200

GPC Cleanup: (Y/N) Y

pH: 7.0

Number TICs found: 0

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKQK

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

Client: TNUHANFORD B03-017 H2118

Matrix: (soil/water) SOIL

Lab Sample ID: 03LE0377-MB1

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

Lab File ID: A040303

Level: (low/med) LOW

Date Received: 03/31/03

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

Date Extracted: 03/31/03

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/03/03

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.785	80	JA
2.	ALDOL CONDENSATE	6.356	10000	JA
3.	UNKNOWN	16.652	80	J

Lionville Laboratory, Inc.

SAMPLE EXTRACTION RECORD

Sheet no.: 1

605

17

Extract. Date: 03/31/03 Extraction Batch No: 03LE0377 Analyst: MF Method: SONC

Test: 0625 Cleanup Date: Analyst: Client: TNU-HANFORD B03-017

LIMS Report Date: 04/01/03 Solvent: DCM/ACETONE Adsorbent:

Sample No:	Client Name / Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0303L059-	TNU-HANFORD B03-017										
002 H	J00JW3	7	30.0	1.0		1.0		0.5	N	88.09	18.92
002 HS	J00JW3	7	30.0	1.0	1.0	1.0		0.5	N	88.09	18.92
002 HT	J00JW3	7	30.0	1.0	1.0	1.0		0.5	N	88.09	18.92
003 H	J00JW4	7	30.0	1.0		1.0		0.5	N	87.40	19.07
004 H	J00K91	7	5.23	1.0		10.0		0.5	N	94.49	1011.8
0303L060-	TNU-HANFORD B03-015										
001 H	J00K41	7	30.0	1.0		1.0		0.5	N	92.77	17.97
001 HS	J00K41	7	30.0	1.0	1.0	1.0		0.5	N	92.77	17.97
001 HT	J00K41	7	30.0	1.0	1.0	1.0		0.5	N	92.77	17.97
002 H	J00K42	7	30.0	1.0		1.0		0.5	N	91.24	18.27
003 H	J00K09	7	30.0	1.0		1.0		0.5	N	96.44	17.28
004 H	J00JV6	7	30.0	1.0		1.0		0.5	N	100.00	16.67
005 H	J00JV7	7	30.0	1.0		1.0		0.5	N	95.24	17.50
006 H	J00JV8	7	30.0	1.0		1.0		0.5	N	95.66	17.42
03LE0377-MB1 H	SBLKQK	7	30.0	1.0		1.0		0.5	N	100.00	16.67
03LE0377-MB1 HS	SBLKQK	7	30.0	1.0	1.0	1.0		0.5	N	100.00	16.67

Comments:
Surrogate: 500 UL ESU BNA 89914002 @100-150 UG/ML
Spike: 500 UL EMS BNA 89912202 @100-150 UG/ML

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
		4/1/03 09:15		4/1/03 900	

Lionville Laboratory, Inc.

SAMPLE EXTRACTION RECORD

Sheet no.: 1

605

8

Extract. Date: 04/01/03 Extraction Batch No: 03LE0383 Analyst: MF Method: ****

Test: O625 Cleanup Date: Analyst: Client: TNU-HANFORD B03-017

LIMS Report Date: 04/01/03 Solvent: DCM Adsorbent:

Sample No:	Client Name / Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0303L059-	TNU-HANFORD B03-017										
001 H	J00K90	7	1.0	100.		100		1.0	Y	92.81	107750
001 HS	J00K90	7	1.0	100.	100	100		1.0	Y	92.81	107750
001 HT	J00K90	7	1.0	100.	100	100		1.0	Y	92.81	107750
03LE0383-MB1 H	SBLKQM	7	1.0	100.		100		1.0	Y	100.00	100000
03LE0383-MB1 HS	SBLKQM	7	1.0	100.	100	100		1.0	Y	100.00	100000

Comments:
Surrogate: 500 UL ESU BNA 89914002 @100-150 UG/ML
Spike: 500 UL EMS BNA 89912202 @100-150 UG/ML

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
all	[signature]	4/1/03 15:15	[signature]	4/1/03 1615	[illegible]

Lionville Laboratory Use Only

03031059

Custody Transfer Record/Lab Work Request

Page 1 of ___

LVLI LIONVILLE LABORATORY INC

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU Hanford B03-017

Est. Final Proj. Sampling Date: ___

Project #: 11343-0006-001-9999-00

Project Contact/Phone #: ___

Lionville Laboratory Project Manager: Arlette Johnson

QC: Spec Del: Std TAT: 7 days

Date Rec'd: 3-28-03 Date Due: 4-4-03

		A	B	C	D	E	F	
Refrigerator #		1	6	6	6	6	6	leachates
#/Type Container	Liquid							
	Solid	1 ag	1 ag	1 ag	1 ag	1 ag	1 ag	
Volume	Liquid							
	Solid	60	120	120	60	60	60	
Preservatives		—	—	—	—	—	—	
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb	INORG: Metal (2)	CN	Metals (3)	TPH

Lionville Laboratory Use Only

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	0024H	0025H	0008H PCB	Met ①	ITCLP	IPHC	Met ①
001	J00K90			~~SO~~ O	3-25-03	0840	X	X	X				
002	J00JW3			SO		0910		X	X	X	X	X	
003	J00JW4					⊥		X	X	X	X	X	
004	J00K91					1445	X	X	X	X			
005	J00JW3 tclp of 002			L	*	*							✓
006	⊥ 4 ⊥ 003												✓
~~007~~													

TK 3/28/03

Special Instructions: Saf # B03-017

Run Matrix QC

met ①: As, Ba, Cd, Cr, Pb, Se, Ag, Hg

* See labchron

DATE/REVISIONS:

→ 1. #001 BNA, P/PCB analysis =

2. 1 120ml glass.

4-1-03 3. Sample -001 change Matrix to Oil

4.

5.

6.

Lionville Laboratory Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___ Airbill # 7928 5817 2102

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. 2.8 °C

Relinquished by	Received by	Date	Time
Fed Ex	D Johnson	3-29-03	0930

Relinquished by	Received by	Date	Time

COMPOSITE WASTE

ORIGINAL REWRITTEN

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B03-017-028	Page 1 of 1

Collector R FAHLBERG	Company Contact M STANKOVICH	Telephone No. 372-9082	Project Coordinator KESSNER, JH
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017
Ice Chest No. ERC 02 407	Field Logbook No. EL 1577	COA	Method of Shipment Fed Ex
Shipped To TMA/RECRA	Offsite Property No. ~~NA~~ A030172		Bill of Lading/Air Bill No. ~~NA~~ SEE OSPC

Price Code 9C

Air Quality —

Data Turnaround 7 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	Cool 4C	Cool 4C	Cool 4C									
Type of Container	aG	aG RJN 3/24/03	G									
No. of Container(s)	1	1	1									
Volume	~~120g~~ 120ml	~~125g~~ 120ml	~~20g~~ 60ml RJN 3/24/03									
SAMPLE ANALYSIS	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)									

Sample No.	Matrix *	Sample Date	Sample Time										
J00K90	OTHER SOLID	3.25.03	0840	X	X	X							
~~J00K91~~	~~OTHER SOLID~~	~~3.25.03~~	~~1445~~										
RE 3.28.03													

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: R. Fahlberg	1630 3.25.03	Received By/Stored In: 3B 3728	1630 3.25.03
Relinquished By/Removed From: 3B 3728	32703 1000	Received By/Stored In: S. J. GALE	32703 1000
Relinquished By/Removed From: S. J. GALE	32703 1000	Received By/Stored In: FED EX	
Relinquished By/Removed From: [illegible]	3.28.03 0930	Received By/Stored In: [illegible]	3.28.03 0930
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=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 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B03-017-21	Page 1 of 1
Collector Fahlberg	Company Contact M Stankovich	Telephone No. 372-9082	Project Coordinator KESSNER, JH	Price Code 9C Air Quality ☐
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017	Data Turnaround 7 Days
Ice Chest No. ERC 02 407	Field Logbook No. EL 1577	COA C17HXB671C	Method of Shipment Fed EX	
Shipped To TMA/RECRA	Offsite Property No. A030172		Bill of Lading/Air Bill No. SEE OSPC	

20

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially Radioactive

Special Handling and/or Storage

Preservation			None	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container			aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)			1	1	1	1	1	1	1			
Volume			1000mL	60mL	60mL	120mL	120mL	60mL	60mL			
SAMPLE ANALYSIS			See item (1) in Special Instructions. 32703	See item (2) in Special Instructions.	See item (3) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL) RJN 3/26/03	TPH (Total) - 418.1			
Sample No.	Matrix *	Sample Date	Sample Time									
J00JW3	OTHER SOLID	3·25·03	0910	X	X	X	X	X	X	X		
J00JW4	OTHER SOLID	3·25·03	0910	X	X	X	X	X	X	X		
									RJN 3/26/03			

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: R. Fahlberg Date/Time: 1630 3·25·03	Received By/Stored In: 3B 3728 Date/Time: 1630 3·25·03	
Relinquished By/Removed From: 3B 3728 Date/Time: 32703 1000	Received By/Stored In: SJGALE Date/Time: 32703 1000	
Relinquished By/Removed From: SJGALE Date/Time: 32703 1000	Received By/Stored In: FED EX Date/Time:	
Relinquished By/Removed From: Fed Ex Date/Time: 3·28·03 0930	Received By/Stored In: [signature] Date/Time: 3·28·03 0930	
Relinquished By/Removed From: Date/Time:	Received By/Stored In: Date/Time:	
Relinquished By/Removed From: Date/Time:	Received By/Stored In: Date/Time:	

SPECIAL INSTRUCTIONS

(1) ~~Americium-241;~~ Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta; ~~Nickel-63; Isotopic Plutonium {Plutonium-238, Plutonium-239/240}; Strontium-89,90 - Total Sr; Technetium-99; Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238}~~ 3/26/03 RJN

(2) ICP Metals - 6010TR (Client List) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury - 7471 - (CV)

(3) Metals by ICP (TCLP) - 1311/6010 {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury (TCLP) - 1311/7470

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=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 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B03-017-38	Page 1 of 1

Collector: R FAHLBERG	Company Contact: M STANKOVICH	Telephone No.: 372-9082	Project Coordinator: KESSNER, JH
Price Code: 9C	Data Turnaround: 7 Days	Air Quality ☐	
Project Designation: Remaining Sites Confirmation Sampling-Other Solid	Sampling Location: 128-C-1		SAF No.: B03-017
Ice Chest No.: ERC 02-407	Field Logbook No.: EL 1577	COA: C17HXB671C	Method of Shipment: Fed Ex
Shipped To: TMA/RECRA	Offsite Property No.: ~~NA~~ A030172		Bill of Lading/Air Bill No.: ~~NA~~ SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	None	None	Cool 4C	Cool 4C	Cool 4C							
Type of Container	aG	aG	aG	aG	G							
No. of Container(s)	1	1	1	1	1							
Volume	1000mL	60mL	120g	125g	20g							
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)							
Sample No. / Matrix * / Sample Date / Sample Time												
J00K91 / OTHER SOLID / 3-25-03 / 1445	X	X	X	X	X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1630	Received By/Stored In	Date/Time 1630
R.F. Fahlberg	3-25-03	3B 3728	3-25-03
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
3B 3728	32703 1000	SJ Gale	32703 1000
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
SJ Gale	32703 1000	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Fed Ex	3.28.03 0930		3.28.03 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ~~Americium-241~~; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta; ~~Nickel-63, Isotopic Plutonium {Plutonium-238, Plutonium-239/240}, Strontium-89,90, Total Sr, Technetium-99, Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238}~~ RJN 3/27/03

(2) ICP Metals - 6010TR (Client List) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *

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

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

BHI-EE-011 (03/01/2002)

LIONVILLE LABORATORY INCORPORATED

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hanford

Purchase Order/Project:

DATE: 3-28-03

SAF#/ SOW# / Release #: B03-017

Laboratory SDG #: 03036059

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

1. Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
2. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
3. Airbill # recorded?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
5. Sample containers are intact?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
7. All samples on coc received?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
8. All sample label information matches coc?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	☐ No	☑ N/A	☐ see Comment #
10. Shipment meets LvLI Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
11. Where applicable, bar code labels are affixed to coc?	☐ Yes	☐ No	☑ N/A	☐ see Comment #
12. coc signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
13. coc will be faxed or emailed to client?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
14. Project Manager/Client contacted concerning discrepancies? (name/date)	☐ Yes	☐ No	☑ N/A	☐ see Comment #

Cooler # / temp (°C) and Comments:

ERC 02-407 / 2.8°C

Laboratory Sample Custodian: [illegible]

Laboratory Project Manager:

RECEIVED
APR 2003

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-017 H2118

DATE RECEIVED: 03/28/03 LVL LOT # :0303L059

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00K90	001	OI	03LE0384	03/25/03	04/02/03	04/02/03
J00K90	001 MS	OI	03LE0384	03/25/03	04/02/03	04/02/03
J00K90	001 MSD	OI	03LE0384	03/25/03	04/02/03	04/02/03
J00JW3	002	SO	03LE0378	03/25/03	03/31/03	04/02/03
J00JW3	002 MS	SO	03LE0378	03/25/03	03/31/03	04/02/03
J00JW3	002 MSD	SO	03LE0378	03/25/03	03/31/03	04/02/03
J00JW4	003	SO	03LE0378	03/25/03	03/31/03	04/02/03
J00K91	004	SO	03LE0378	03/25/03	03/31/03	04/02/03

LAB QC:

PBLKPS	MB1	S	03LE0384	N/A	04/02/03	04/02/03
PBLKPS	MB1 BS	S	03LE0384	N/A	04/02/03	04/02/03
PBLKPR	MB1	S	03LE0378	N/A	03/31/03	04/01/03
PBLKPR	MB1 BS	S	03LE0378	N/A	03/31/03	04/01/03

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B03-017
LVL #: 0303L059
SDG/SAF # H2118/B03-017

W.O. #: 11343-606-001-9999-00
Date Received: 03-28-2003

PESTICIDE

One (1) oil and three (3) solid samples were collected on 03-25-2003.

The samples and their associated QC samples were extracted on 03-31-2003, 04-02-2003 and analyzed according to Lionville Laboratory OPs based on SW846, 3rd Edition procedures on 04-01,02-2003. The extraction procedures were based on method 3540 for solid; 3580a for oil (waste dilution –1g into 100mL of hexane); and the extracts were analyzed based on method 8081A.

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

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
2. The required holding time for extraction and analysis has been met.
3. The method blanks were below the reporting limits for all target compounds.
4. One (1) of twelve (12) obtainable surrogate recoveries was outside acceptance criteria. However, EPA CLP surrogate recovery criteria were met (i.e., no more than one outlier per sample).
5. All obtainable blank spike recoveries were within acceptance criteria.
6. All obtainable matrix spike recoveries were within acceptance criteria.
7. Sample J00K91 (6.08g sample has been used) required a 50-fold dilution due to high concentration of non-target analytes. The reporting limits have been adjusted to reflect the necessary dilution.
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.
10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

4/7/03
Date

som\r:\group\data\pest\tnu hanford\0303-059.pes

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 1 pages.

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

GLOSSARY OF PESTICIDE/PCB DATA

DATA QUALIFIERS

U = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).

J = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.

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

I = Interference.

ABBREVIATIONS

BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.

BSD = Indicates blank spike duplicate.

MS = Indicates matrix spike.

MSD = Indicates matrix spike duplicate.

DL = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP = Indicates Spiked Compound.

GLOSSARY OF PESTICIDE/PCB DATA

P	=	This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.

R:/SHARE/HPLC/PESTICIDE/PCBGLOS

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 04/04/03 09:22

RFW Batch Number: **0303L059** Client: **TNUHANFORD B03-017 H2118** Work Order: 11343606001 Page: 1

	Cust ID:	J00K90		J00K90		J00K90		J00JW3		J00JW3		J00JW3	
Sample Information	RFW#:	001		001 MS		001 MSD		002		002 MS		002 MSD	
	Matrix:	OIL		OIL		OIL		SOLID		SOLID		SOLID	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate:	Tetrachloro-m-xylene	D	%	D	%	D	%	95	%	100	%	90	%
	Decachlorobiphenyl	D	%	D	%	D	%	115	%	125 *	%	115	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		540	U	540	U	540	U	1.9	U	1.9	U	1.9	U
Beta-BHC		540	U	540	U	540	U	1.9	U	1.9	U	1.9	U
Delta-BHC		540	U	540	U	540	U	1.9	U	1.9	U	1.9	U
gamma-BHC (Lindane)		540	U	D	%	D	%	1.9	U	48	%	74	%
Heptachlor		540	U	D	%	D	%	1.9	U	94	%	86	%
Aldrin		540	U	D	%	D	%	1.9	U	84	%	78	%
Heptachlor epoxide		540	U	540	U	540	U	1.9	U	1.9	U	1.9	U
Endosulfan I		540	U	540	U	540	U	1.9	U	1.9	U	1.9	U
Dieldrin		1100	U	D	%	D	%	3.8	U	98	%	92	%
4,4'-DDE		1100	U	1100	U	1100	U	3.8	U	3.8	U	3.8	U
Endrin		1100	U	D	%	D	%	3.8	U	118	%	111	%
Endosulfan II		1100	U	1100	U	1100	U	3.8	U	3.8	U	3.8	U
4,4'-DDD		1100	U	1100	U	1100	U	3.8	U	3.8	U	3.8	U
Endosulfan sulfate		1100	U	1100	U	1100	U	3.8	U	3.8	U	3.8	U
4,4'-DDT		1100	U	D	%	D	%	3.8	U	113	%	109	%
Methoxychlor		5400	U	5400	U	5400	U	19	U	19	U	19	U
Endrin ketone		1100	U	1100	U	1100	U	3.8	U	3.8	U	3.8	U
Endrin aldehyde		1100	U	1100	U	1100	U	3.8	U	3.8	U	3.8	U
alpha-Chlordane		540	U	540	U	540	U	1.9	U	1.9	U	1.9	U
gamma-Chlordane		540	U	540	U	540	U	1.9	U	1.9	U	1.9	U
Toxaphene		54000	U	54000	U	54000	U	190	U	190	U	190	U

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

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 04/04/03 09:22

RFW Batch Number: 0303L059 Client: TNUHANFORD B03-017 H2118 Work Order: 11343606001 Page: 2

	Cust ID:	J00JW4	J00K91	PBLKPS	PBLKPS BS	PBLKPR	PBLKPR BS
Sample Information	RFW#:	003	004	03LE0384-MB1	03LE0384-MB1	03LE0378-MB1	03LE0378-MB1
	Matrix:	SOLID	SOLID	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	50.0	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate: Tetrachloro-m-xylene		95 %	D %	D %	D %	85 %	90 %
Decachlorobiphenyl		110 %	D %	D %	D %	120 %	115 %
		fl	fl	fl	fl	fl	fl
Alpha-BHC		1.9 U	440 U	500 U	500 U	1.7 U	1.7 U
Beta-BHC		1.9 U	440 U	500 U	500 U	1.7 U	1.7 U
Delta-BHC		1.9 U	440 U	500 U	500 U	1.7 U	1.7 U
gamma-BHC (Lindane)		1.9 U	440 U	500 U	D %	1.7 U	76 %
Heptachlor		1.9 U	440 U	500 U	D %	1.7 U	86 %
Aldrin		1.9 U	440 U	500 U	D %	1.7 U	76 %
Heptachlor epoxide		1.9 U	440 U	500 U	500 U	1.7 U	1.7 U
Endosulfan I		1.9 U	440 U	500 U	500 U	1.7 U	1.7 U
Dieldrin		3.8 U	870 U	1000 U	D %	3.3 U	90 %
4,4'-DDE		3.8 U	870 U	1000 U	1000 U	3.3 U	3.3 U
Endrin		3.8 U	870 U	1000 U	D %	3.3 U	106 %
Endosulfan II		3.8 U	870 U	1000 U	1000 U	3.3 U	3.3 U
4,4'-DDD		3.8 U	870 U	1000 U	1000 U	3.3 U	3.3 U
Endosulfan sulfate		3.8 U	870 U	1000 U	1000 U	3.3 U	3.3 U
4,4'-DDT		3.8 U	870 U	1000 U	D %	3.3 U	96 %
Methoxychlor		19 U	4400 U	5000 U	5000 U	17 U	17 U
Endrin ketone		3.8 U	870 U	1000 U	1000 U	3.3 U	3.3 U
Endrin aldehyde		3.8 U	870 U	1000 U	1000 U	3.3 U	3.3 U
alpha-Chlordane		1.9 U	440 U	500 U	500 U	1.7 U	1.7 U
gamma-Chlordane		1.9 U	440 U	500 U	500 U	1.7 U	1.7 U
Toxaphene		190 U	44000 U	50000 U	50000 U	170 U	170 U

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

4/7/03

Lionville Laboratory Use Only

03031059

Custody Transfer Record/Lab Work Request

Page 1 of ___

LVLI LIONVILLE LABORATORY INC.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU Hanford. B03-017

Est. Final Proj. Sampling Date: ___

Project #: 11343-0006-001-9999-00

Project Contact/Phone #: ___

Lionville Laboratory Project Manager: Arlette Johnson

QC: Spec Del: Std TAT: 7 days

Date Rec'd: 3-28-03 Date Due: 4-4-03

		A	B	C					D		E	F				
Refrigerator #		1	6	6					6		6	6				
#/Type Container	Liquid															
	Solid	1 ag	1 ag	1 ag					1 ag		1 ag	1 ag				
Volume	Liquid															
	Solid	60	120	120					60		60	60				
Preservatives		—	—	—					—		—	—				
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal (2)	CN	Metals (3)	TPH				

Lionville Laboratory Use Only

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	0024H	0025H	0008H 0PCB					met ①		ITCLP	IPHC		met ①		
001	J00K90			SO	3-25-03	0840	X	X	X												
002	J00JW3					0910		X	X					X		X	X				
003	J00JW4					L		X	X					X		X	X				
004	J00K91					1445	X	X	X					X							
005	J00JW3 tclp of 002			L	*	*													✓		
006	4 003																		✓		
~~007~~																					

TR 3/28/03

Special Instructions: Saf # B03-017

Run Matrix QC

met①: As, Ba, Cd, Cr, Pb, Se, Ag, Hg

* See labchron

DATE/REVISIONS:

→ 1. #001 BNA, P/PCB analysis =

2. 1 120ml glass.

3.

4.

5.

6.

Lionville Laboratory Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___ Airbill # 7928 5817 2102

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. 2.8 °C

Relinquished by	Received by	Date	Time
Fed Ex	D Smith	3-28-03	0930

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B03-017-028	Page 1 of 1
Collector R FAHLBERG	Company Contact M STANKOVICH	Telephone No. 372-9082	Project Coordinator KESSNER, JH	Price Code 9C Air Quality —
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017	Data Turnaround 7 Days
Ice Chest No. ERC 02 407	Field Logbook No. EL 1577	COA	Method of Shipment Fed Ex	
Shipped To TMA/RECRA	Offsite Property No. ~~NA~~ A030172		Bill of Lading/Air Bill No. ~~NA~~ SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	Cool 4C	Cool 4C	Cool 4C									
Type of Container	aG	aG	G									
No. of Container(s)	1	~~1~~ 0 RJN 3/27/03	1									
Volume	~~120g~~ 120ml	~~125g~~ 120ml	~~20g~~ 60ml RJN 3/27/03									
SAMPLE ANALYSIS	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)									

Sample No.	Matrix *	Sample Date	Sample Time										
J00K90	OTHER SOLID	3.25.03	0840	X	X	X							
~~J00K91~~	~~OTHER SOLID~~	~~3.25.03~~	~~1445~~										
RF 3.25.03													

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From R. Fahlberg R Fahlberg	Date/Time 1630 3.25.03	Received By/Stored In 3B 3728	Date/Time 1630 3.25.03
Relinquished By/Removed From 3B 3728	Date/Time 32703 1000	Received By/Stored In S J GALE	Date/Time 32703 1000
Relinquished By/Removed From S J GALE	Date/Time 32703 1000	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From Fed Ex	Date/Time 3.28.03 0930	Received By/Stored In [signature]	Date/Time 3.28.03 0930
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

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=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 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B03-017-21	Page 1 of 1

Collector: Fahlberg	Company Contact: M Stankovich	Telephone No.: 372-9082	Project Coordinator: KESSNER, JH
Price Code: 9C	Data Turnaround: 7 Days	Air Quality ☐	
Project Designation: Remaining Sites Confirmation Sampling-Other Solid	Sampling Location: 128-C-1	SAF No.: B03-017	
Ice Chest No.: ERC 02 407	Field Logbook No.: EL 1577	COA: C17HXB671C	Method of Shipment: Fed EX
Shipped To: TMA/RECRA	Offsite Property No.: A030172	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially Radioactive

Special Handling and/or Storage

Preservation	None	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container	aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)	1	1	1	1	1		1			
Volume	1000mL	60mL	60mL	120mL	120mL	60mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	See item (3) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)	TPH (Total) - 418.1			
Sample No.	Matrix *	Sample Date	Sample Time								
J00JW3	OTHER SOLID	3·25·03	0910	X	X	X	X	X	X	X	
J00JW4	OTHER SOLID	3·25·03	0910	X	X	X	X	X	X	X	

RUN 3/26/03

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R. Fahlberg	1630 3·25·03	3B 3728	1630 3·25·03
3B 3728	32703 1000	S GALE	32703 1000
S GALE	32703 1000	FED EX	
FED EX	3·28·03 0930		3·28·03 0930

SPECIAL INSTRUCTIONS

(1) ~~*Americium-241;~~ Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta; ~~Nickel-63; Isotopic Plutonium {Plutonium-238, Plutonium-239/240}; Strontium-89,90; Total Sr; Technetium-99; Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238}~~ 3/26/03 RUN

(2) ICP Metals - 6010TR (Client List) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury - 7471 - (CV)

(3) Metals by ICP (TCLP) - 1311/6010 {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury (TCLP) - 1311/7470

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *

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

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

BHI-EE-011 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B03-017-38	Page 1 of 1
Collector R FAHLBERG	Company Contact M STANKOVICH	Telephone No. 372-9082	Project Coordinator KESSNER, JH	Price Code 9C Data Turnaround 7 Days
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017	Air Quality ☐
Ice Chest No. ERC 02-407	Field Logbook No. EL 1577	COA C17HXB671C	Method of Shipment Fed Ex	
Shipped To: ~~TMA~~/RECRA	Offsite Property No. ~~NA~~ A030172		Bill of Lading/Air Bill No. ~~NA~~ SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	None	None	Cool 4C	Cool 4C	Cool 4C						
Type of Container	aG	aG	aG	aG	G						
No. of Container(s)	1	1	1	1	1						
Volume	1000mL	60mL	120g	125g	20g						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)						

Sample No.	Matrix *	Sample Date	Sample Time										
J00K91	OTHER SOLID	3-25-03	1445	X	X	X	X	X					

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From R. Fahlberg R. Fahlberg 3-25-03	Date/Time 1630	Received By/Stored In 3B 3728 3-25-03
Relinquished By/Removed From 3B 3728 32703 1000	Date/Time	Received By/Stored In SJ Gale 32703 1000
Relinquished By/Removed From SJ Gale 32703 1000	Date/Time	Received By/Stored In FED EX
Relinquished By/Removed From Fed Ex 3-28-03 0930	Date/Time	Received By/Stored In [illegible] 3-28-03 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In
Relinquished By/Removed From	Date/Time	Received By/Stored In

SPECIAL INSTRUCTIONS

(1) ~~Americium-241~~; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta; ~~Nickel-63, Isotopic Plutonium {Plutonium-238, Plutonium-239/240}, Strontium-89,90, Total Sr, Technetium-99, Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238}~~ RIN 3/27/03

(2) ICP Metals - 6010TR (Client List) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *

S=Soil
SE=Sediment
SO=Solid
Si=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 (03/01/2002)

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hanford

Purchase Order/Project:

DATE: 3-28-03

SAF#/ SOW# / Release #: B03-017

Laboratory SDG #: 03036059

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

1. Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
2. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
3. Airbill # recorded?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
5. Sample containers are intact?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
7. All samples on coc received?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
8. All sample label information matches coc?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	☐ No	☑ N/A	☐ see Comment #
10. Shipment meets LvLI Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
11. Where applicable, bar code labels are affixed to coc?	☐ Yes	☐ No	☑ N/A	☐ see Comment #
12. coc signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
13. coc will be faxed or emailed to client?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
14. Project Manager/Client contacted concerning discrepancies? (name/date)	☐ Yes	☐ No	☑ N/A	☐ see Comment #

Cooler # / temp (°C) and Comments:

ERC 02-407 / 2.8°C

Laboratory Sample Custodian:

Laboratory Project Manager:

11

RECEIVED
APR 2003

Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-017 H2118

DATE RECEIVED: 03/28/03 LVL LOT # :0303L059

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00K90	001	OI	03LE0384	03/25/03	04/02/03	04/02/03
J00K90	001 MS	OI	03LE0384	03/25/03	04/02/03	04/02/03
J00K90	001 MSD	OI	03LE0384	03/25/03	04/02/03	04/02/03
J00JW3	002	SO	03LE0378	03/25/03	03/31/03	04/02/03
J00JW4	003	SO	03LE0378	03/25/03	03/31/03	04/02/03
J00JW4	003 MS	SO	03LE0378	03/25/03	03/31/03	04/02/03
J00JW4	003 MSD	SO	03LE0378	03/25/03	03/31/03	04/02/03
J00K91	004	SO	03LE0378	03/25/03	03/31/03	04/03/03

LAB QC:

PBLKPS	MB1	S	03LE0384	N/A	04/02/03	04/03/03
PBLKPS	MB1 BS	S	03LE0384	N/A	04/02/03	04/03/03
PBLKPR	MB1	S	03LE0378	N/A	03/31/03	04/02/03
PBLKPR	MB1 BS	S	03LE0378	N/A	03/31/03	04/03/03

AR 4/9/03

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B03-017
LVL #: 0303L059
SDG/SAF #: H2118/B03-017

W.O. #: 11343-606-001-9999-00
Date Received: 03-28-03

PCB

The set of samples consisted of one (1) oil and three (3) solid samples collected on 03-25-03.

The samples and their associated QC samples were extracted on 03-31-03, 04-02-03, and analyzed according to Lionville Laboratory OPs based on SW846, 3rd Edition procedures on 04-02,03-03. The extraction procedures were based on methods 3540, 3580A (waste dilution – 1 g into 100 mLs), and the extracts were analyzed based on method 8082.

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

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

2. All required holding times for extraction and analysis have been met.

3. All samples and their associated QC samples received a Sulfuric Acid and a Sulfur cleanup.

4. All method blanks were below the reporting limits for all target compounds.

5. All obtainable surrogate recoveries were within acceptance criteria.

6. All blank spike recoveries were within acceptance criteria.

7. All matrix spike recoveries were within acceptance criteria.

   The target compound Aroclor 1254 was incalculable due to coelution with the spike compound Aroclor 1260 in the matrix spike and matrix spike duplicate and is flagged with "I".

8. Sample J00K91 required a 5-fold instrument dilution due to the high concentrations of target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.

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

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 9 pages.

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

10. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

11. Patterns for Aroclors 1254 and 1260 were identified in these samples. The reported Aroclor was chosen based on the best pattern match and fit. Quantitation was performed using congeners common to both Aroclors to give the best overall total PCB concentration.

12 I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

4/9/03
Date

pef\r:\group\data\pest\tmu hanford\03L-059.pcb

GLOSSARY OF PESTICIDE/PCB DATA

DATA QUALIFIERS

U = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).

J = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.

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

I = Interference.

ABBREVIATIONS

BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.

BSD = Indicates blank spike duplicate.

MS = Indicates matrix spike.

MSD = Indicates matrix spike duplicate.

DL = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP = Indicates Spiked Compound.

GLOSSARY OF PESTICIDE/PCB DATA

P	=	This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.

R:/SHARE/HPLC/PESTICIDE/PCBGLOS

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 04/08/03 15:02

RFW Batch Number: 0303L059 Client: TNUHANFORD B03-017 H2118 Work Order: 11343606001 Page: 1

	Cust ID:	J00K90		J00K90		J00K90		J00JW3		J00JW4		J00JW4	
Sample Information	RFW#:	001		001 MS		001 MSD		002		003		003 MS	
	Matrix:	OIL		OIL		OIL		SOLID		SOLID		SOLID	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate:	Tetrachloro-m-xylene	D	%	D	%	D	%	80	%	80	%	80	%
	Decachlorobiphenyl	D	%	D	%	D	%	105	%	110	%	105	%
			fl		fl		fl		fl		fl		fl
Aroclor-1016		11000	U	132	%	148	%	38	U	38	U	100	%
Aroclor-1221		22000	U	22000	U	22000	U	76	U	76	U	76	U
Aroclor-1232		11000	U	11000	U	11000	U	38	U	38	U	38	U
Aroclor-1242		11000	U	11000	U	11000	U	38	U	38	U	38	U
Aroclor-1248		11000	U	11000	U	11000	U	38	U	38	U	38	U
Aroclor-1254		11000	U	11000	U	11000	U	34	J	48		I	
Aroclor-1260		11000	U	112	%	116	%	38	U	38	U	119	%

	Cust ID:	J00JW4		J00K91		PBLKPS		PBLKPS BS		PBLKPR		PBLKPR BS	
Sample Information	RFW#:	003 MSD		004		03LE0384-MB1		03LE0384-MB1		03LE0378-MB1		03LE0378-MB1	
	Matrix:	SOLID		SOLID		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.00		5.00		1.00		1.00		1.00		1.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate:	Tetrachloro-m-xylene	80	%	80	%	D	%	D	%	80	%	80	%
	Decachlorobiphenyl	105	%	I	%	D	%	D	%	110	%	80	%
			fl		fl		fl		fl		fl		fl
Aroclor-1016		100	%	870	U	10000	U	136	%	33	U	91	%
Aroclor-1221		76	U	1700	U	20000	U	20000	U	67	U	67	U
Aroclor-1232		38	U	870	U	10000	U	10000	U	33	U	33	U
Aroclor-1242		38	U	870	U	10000	U	10000	U	33	U	33	U
Aroclor-1248		38	U	870	U	10000	U	10000	U	33	U	33	U
Aroclor-1254		I		450	J	10000	U	10000	U	33	U	33	U
Aroclor-1260		122	%	870	U	10000	U	116	%	33	U	90	%

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

4/9/03

Lionville Laboratory Use Only

03031059

Custody Transfer Record/Lab Work Request

Page 1 of ___

LVLI LIONVILLE LABORATORY INC

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU Hanford B03-017

Est. Final Proj. Sampling Date: ___

Project #: 11343-0006-001-9999-00

Project Contact/Phone #: ___

Lionville Laboratory Project Manager: Arlette Johnson

QC: Spec Del: Std TAT: 7 days

Date Rec'd: 3-28-03 Date Due: 4-4-03

		A	B	C					D		E	F				
Refrigerator #		1	6	6					6		6	6				
#/Type Container	Liquid															
	Solid	1 ag	1 ag	1 ag					1 ag		1 ag	1 ag				
Volume	Liquid															
	Solid	60	120	120					60		60	60				
Preservatives		—	—	—					—		—	—				
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb				INORG: Metal (2)	CN	Metals (3)	TPH				

Lionville Laboratory Use Only

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	0024H	0025H	0008H OPCB					met ①		ITCLP	IPHC		met ①		
001	J00K90			~~SO~~ 0	3-25-03	0840	X	X	X												
002	J00JW3			SO		0910		X	X					X		X	X				
003	J00JW4					⊥		X	X					X		X	X				
004	J00K91			⊥	⊥	1445	X	X	X					X							
005	J00JW3 tclp of 002			L	*	*													✓		
006	⊥ 4 ⊥ 003			⊥	⊥	⊥													✓		
~~007~~																					

TR 3/28/03

Special Instructions: Saf # B03-017

Run Matrix QC

met ①: As, Ba, Cd, Cr, Pb, Se, Ag, Hg

* See labchron

DATE/REVISIONS:

→ 1. #001 BNA, P/PCB analysis =

2. 1 120ml glass.

4-1-03 3. Sample -001 change Matrix to Oil

4. ___

5. ___

6. ___

Lionville Laboratory Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___ Airbill # 7928 5817 2102

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. 2.8 °C

Relinquished by	Received by	Date	Time
Fed Ex	D Smith	3-29-03	0930

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B03-017-028	Page 1 of 1

Collector R FAHLBERG	Company Contact M STANKOVICH	Telephone No. 372-9082	Project Coordinator KESSNER, JH
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017
Ice Chest No. ERC 02 407	Field Logbook No. EL 1577	COA	Method of Shipment Fed Ex
Shipped To TMA/RECRA	Offsite Property No. ~~NA~~ A030172		Bill of Lading/Air Bill No. ~~NA~~ SEE OSPC

Price Code 9C

Air Quality —

Data Turnaround 7 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	Cool 4C	Cool 4C	Cool 4C								
Type of Container	aG	aG RJN 3/24/03	G								
No. of Container(s)	1	10	1								
Volume	~~120g~~ 120ml	~~125g~~ 120ml	~~20g~~ 60ml	RJN 3/24/03							
SAMPLE ANALYSIS	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)								

Sample No.	Matrix *	Sample Date	Sample Time										
J00K90	OTHER SOLID	3.25.03	0840	X	X	X							
~~J00K91~~	~~OTHER SOLID~~	~~3.25.03~~	~~1445~~										
RE 3.28.03													

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix *
Relinquished By/Removed From — Date/Time 1630 R. Fahlberg R. Fahlberg 3.25.03	Received By/Stored In — Date/Time 1630 3B 3728 3.25.03		S=Soil SE=Sediment SO=Solid SI=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue Wi=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From — Date/Time 3B 3728 32703 1000	Received By/Stored In — Date/Time S.J. GALE 32703 1000		
Relinquished By/Removed From — Date/Time S.J. GALE 32703 1000	Received By/Stored In — Date/Time FED EX		
Relinquished By/Removed From — Date/Time Fed Ex 3.28.03 0930	Received By/Stored In — Date/Time 3.28.03 0930	Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03	
Relinquished By/Removed From — Date/Time	Received By/Stored In — Date/Time		
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

BHI-EE-011 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B03-017-21	Page 1 of 1
Collector Fahlberg	Company Contact M Stankovich	Telephone No. 372-9082	Project Coordinator KESSNER, JH	Price Code 9C Air Quality ☐
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017	Data Turnaround 7 Days
Ice Chest No. ERC 02 407	Field Logbook No. EL 1577	COA C17HXB671C	Method of Shipment Fed EX	
Shipped To TMA/RECRA	Offsite Property No. A030172		Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially Radioactive

Special Handling and/or Storage

Preservation	None	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container	aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	1000mL	60mL	60mL	120mL	120mL	60mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	See item (3) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL) RJN 3/26/03	TPH (Total) - 418.1			

Sample No.	Matrix *	Sample Date	Sample Time										
J00JW3	OTHER SOLID	3·25·03	0910	X	X	X	X	X	X	X			
J00JW4	OTHER SOLID	3·20·03	0910	X	X	X	X	X	X RJN 3/26/03	X			

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R. Fahlberg	1630 3·25·03	3B 3728	1630 3·25·03
3B 3728	32703 1000	SJGALE	32703 1000
SJGALE	32703 1000	FED EX	
Fed Ex	328·03 0930	[signature]	328·03 0930

SPECIAL INSTRUCTIONS

(1) ~~Americium-241;~~ Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta; ~~Nickel-63; Isotopic Plutonium {Plutonium-238, Plutonium-239/240}; Strontium-89,90; Total Sr; Technetium-99; Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238}~~ 3/26/03 RJN

(2) ICP Metals - 6010TR (Client List) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury - 7471 - (CV)

(3) Metals by ICP (TCLP) - 1311/6010 {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury (TCLP) - 1311/7470

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

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

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

BHI-EE-011 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B03-017-38	Page 1 of 1

Collector R FAHLBERG	Company Contact M STANKOVICH	Telephone No. 372-9082	Project Coordinator KESSNER, JH	Price Code 9C Air Quality ☐	Data Turnaround 7 Days
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017		
Ice Chest No. ERC 02-407	Field Logbook No. EL 1577	COA C17HXB671C	Method of Shipment Fed Ex		
Shipped To ~~TMA~~/RECRA	Offsite Property No. ~~NA~~ A030172		Bill of Lading/Air Bill No. ~~NA~~ SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	None	None	Cool 4C	Cool 4C	Cool 4C						
Type of Container	aG	aG	aG	aG	G						
No. of Container(s)	1	1	1	1	1						
Volume	1000mL	60mL	120g	125g	20g						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)						

Sample No.	Matrix *	Sample Date	Sample Time										
J00K91	OTHER SOLID	3-25-03	1445	X	X	X	X	X					

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	R.F. Fahlberg	3-25-03 1630	3B 3728	3-25-03 1630
Relinquished By/Removed From	3B 3728	32703 1000	S. Gale	32703 1000
Relinquished By/Removed From	S. Gale	32703 1000	FED EX	
Relinquished By/Removed From	Fed Ex	3-28-03 0930		3-28-03 0930
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ~~Americium-241~~, Gamma Spectroscopy (TCL List) [Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155]; Gross Alpha & Gross Beta; ~~Nickel-63, Isotopic Plutonium [Plutonium-238, Plutonium-239/240]; Strontium-89,90 - Total Sr, Technetium-99, Isotopic Uranium [Uranium-233/234, Uranium-235, Uranium-238]~~ RIN 3/27/03

(2) ICP Metals - 6010TR (Client List) [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *

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

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

BHI-EE-011 (03/01/2002)

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hanford

Purchase Order/Project:

DATE: 3-28-03

SAF#/ SOW# / Release #: B03-017

Laboratory SDG #: Q3C3L059

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

1. Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
2. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
3. Airbill # recorded?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
5. Sample containers are intact?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
7. All samples on coc received?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
8. All sample label information matches coc?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	☐ No	☑ N/A	☐ see Comment #
10. Shipment meets LvLI Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
11. Where applicable, bar code labels are affixed to coc?	☐ Yes	☐ No	☑ N/A	☐ see Comment #
12. coc signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
13. coc will be faxed or emailed to client?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
14. Project Manager/Client contacted concerning discrepancies? (name/date)	☐ Yes	☐ No	☑ N/A	☐ see Comment #

Cooler # / temp (°C) and Comments:

ERC 02-407 / 2.8°C

Laboratory Sample Custodian:

Laboratory Project Manager:

RECEIVED APR 2003

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-017 H2118

DATE RECEIVED: 03/28/03 LVL LOT # :0303L059

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00JW3						
TCLP	002	SO	03LTO042	03/25/03	03/28/03	03/29/03
SILVER, TOTAL	002	SO	03L0172	03/25/03	03/31/03	04/02/03
SILVER, TOTAL	002 REP	SO	03L0172	03/25/03	03/31/03	04/02/03
SILVER, TOTAL	002 MS	SO	03L0172	03/25/03	03/31/03	04/02/03
ARSENIC, TOTAL	002	SO	03L0172	03/25/03	03/31/03	04/02/03
ARSENIC, TOTAL	002 REP	SO	03L0172	03/25/03	03/31/03	04/02/03
ARSENIC, TOTAL	002 MS	SO	03L0172	03/25/03	03/31/03	04/02/03
BARIUM, TOTAL	002	SO	03L0172	03/25/03	03/31/03	04/02/03
BARIUM, TOTAL	002 REP	SO	03L0172	03/25/03	03/31/03	04/02/03
BARIUM, TOTAL	002 MS	SO	03L0172	03/25/03	03/31/03	04/02/03
CADMIUM, TOTAL	002	SO	03L0172	03/25/03	03/31/03	04/02/03
CADMIUM, TOTAL	002 REP	SO	03L0172	03/25/03	03/31/03	04/02/03
CADMIUM, TOTAL	002 MS	SO	03L0172	03/25/03	03/31/03	04/02/03
CHROMIUM, TOTAL	002	SO	03L0172	03/25/03	03/31/03	04/02/03
CHROMIUM, TOTAL	002 REP	SO	03L0172	03/25/03	03/31/03	04/02/03
CHROMIUM, TOTAL	002 MS	SO	03L0172	03/25/03	03/31/03	04/02/03
MERCURY, TOTAL	002	SO	03C0063	03/25/03	04/01/03	04/02/03
MERCURY, TOTAL	002 REP	SO	03C0063	03/25/03	04/01/03	04/02/03
MERCURY, TOTAL	002 MS	SO	03C0063	03/25/03	04/01/03	04/02/03
LEAD, TOTAL	002	SO	03L0172	03/25/03	03/31/03	04/02/03
LEAD, TOTAL	002 REP	SO	03L0172	03/25/03	03/31/03	04/02/03
LEAD, TOTAL	002 MS	SO	03L0172	03/25/03	03/31/03	04/02/03
SELENIUM, TOTAL	002	SO	03L0172	03/25/03	03/31/03	04/02/03
SELENIUM, TOTAL	002 REP	SO	03L0172	03/25/03	03/31/03	04/02/03
SELENIUM, TOTAL	002 MS	SO	03L0172	03/25/03	03/31/03	04/02/03
J00JW4						
TCLP	003	SO	03LTO042	03/25/03	03/28/03	03/29/03
SILVER, TOTAL	003	SO	03L0172	03/25/03	03/31/03	04/02/03
ARSENIC, TOTAL	003	SO	03L0172	03/25/03	03/31/03	04/02/03
BARIUM, TOTAL	003	SO	03L0172	03/25/03	03/31/03	04/02/03
CADMIUM, TOTAL	003	SO	03L0172	03/25/03	03/31/03	04/02/03
CHROMIUM, TOTAL	003	SO	03L0172	03/25/03	03/31/03	04/02/03
MERCURY, TOTAL	003	SO	03C0063	03/25/03	04/01/03	04/02/03

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-017 H2118

DATE RECEIVED: 03/28/03 LVL LOT # :0303L059

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LEAD, TOTAL	003	SO	03L0172	03/25/03	03/31/03	04/02/03
SELENIUM, TOTAL	003	SO	03L0172	03/25/03	03/31/03	04/02/03
J00K91						
SILVER, TOTAL	004	SO	03L0172	03/25/03	03/31/03	04/02/03
ARSENIC, TOTAL	004	SO	03L0172	03/25/03	03/31/03	04/02/03
BARIUM, TOTAL	004	SO	03L0172	03/25/03	03/31/03	04/02/03
CADMIUM, TOTAL	004	SO	03L0172	03/25/03	03/31/03	04/02/03
CHROMIUM, TOTAL	004	SO	03L0172	03/25/03	03/31/03	04/02/03
MERCURY, TOTAL	004	SO	03C0063	03/25/03	04/01/03	04/02/03
LEAD, TOTAL	004	SO	03L0172	03/25/03	03/31/03	04/02/03
SELENIUM, TOTAL	004	SO	03L0172	03/25/03	03/31/03	04/02/03
J00JW3						
SILVER, TCLP LEACHAT	005	W	03L0170	03/29/03	03/31/03	04/02/03
SILVER, TCLP LEACHAT	005 REP	W	03L0170	03/29/03	03/31/03	04/02/03
ARSENIC, TCLP LEACHA	005	W	03L0170	03/29/03	03/31/03	04/02/03
ARSENIC, TCLP LEACHA	005 REP	W	03L0170	03/29/03	03/31/03	04/02/03
BARIUM, TCLP LEACHAT	005	W	03L0170	03/29/03	03/31/03	04/02/03
BARIUM, TCLP LEACHAT	005 REP	W	03L0170	03/29/03	03/31/03	04/02/03
CADMIUM, TCLP LEACHA	005	W	03L0170	03/29/03	03/31/03	04/02/03
CADMIUM, TCLP LEACHA	005 REP	W	03L0170	03/29/03	03/31/03	04/02/03
CHROMIUM, TCLP LEACH	005	W	03L0170	03/29/03	03/31/03	04/02/03
CHROMIUM, TCLP LEACH	005 REP	W	03L0170	03/29/03	03/31/03	04/02/03
MERCURY, TCLP LEACHA	005	W	03C0062	03/29/03	03/31/03	04/01/03
MERCURY, TCLP LEACHA	005 REP	W	03C0062	03/29/03	03/31/03	04/01/03
MERCURY, TCLP LEACHA	005 MS	W	03C0062	03/29/03	03/31/03	04/01/03
LEAD, TCLP LEACHATE	005	W	03L0170	03/29/03	03/31/03	04/02/03
LEAD, TCLP LEACHATE	005 REP	W	03L0170	03/29/03	03/31/03	04/02/03
SELENIUM, TCLP LEACH	005	W	03L0170	03/29/03	03/31/03	04/02/03
SELENIUM, TCLP LEACH	005 REP	W	03L0170	03/29/03	03/31/03	04/02/03
J00JW4						
SILVER, TCLP LEACHAT	006	W	03L0170	03/29/03	03/31/03	04/02/03
SILVER, TCLP LEACHAT	006 MS	W	03L0170	03/29/03	03/31/03	04/02/03

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-017 H2118

DATE RECEIVED: 03/28/03 LVL LOT # :0303L059

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ARSENIC, TCLP LEACHA	006	W	03L0170	03/29/03	03/31/03	04/02/03
ARSENIC, TCLP LEACHA	006 MS	W	03L0170	03/29/03	03/31/03	04/02/03
BARIUM, TCLP LEACHAT	006	W	03L0170	03/29/03	03/31/03	04/02/03
BARIUM, TCLP LEACHAT	006 MS	W	03L0170	03/29/03	03/31/03	04/02/03
CADMIUM, TCLP LEACHA	006	W	03L0170	03/29/03	03/31/03	04/02/03
CADMIUM, TCLP LEACHA	006 MS	W	03L0170	03/29/03	03/31/03	04/02/03
CHROMIUM, TCLP LEACH	006	W	03L0170	03/29/03	03/31/03	04/02/03
CHROMIUM, TCLP LEACH	006 MS	W	03L0170	03/29/03	03/31/03	04/02/03
MERCURY, TCLP LEACHA	006	W	03C0062	03/29/03	03/31/03	04/01/03
LEAD, TCLP LEACHATE	006	W	03L0170	03/29/03	03/31/03	04/02/03
LEAD, TCLP LEACHATE	006 MS	W	03L0170	03/29/03	03/31/03	04/02/03
SELENIUM, TCLP LEACH	006	W	03L0170	03/29/03	03/31/03	04/02/03
SELENIUM, TCLP LEACH	006 MS	W	03L0170	03/29/03	03/31/03	04/02/03

LAB QC:

SILVER LABORATORY	LC1 BS	S	03L0172	N/A	03/31/03	04/01/03
SILVER, TOTAL	MB1	S	03L0172	N/A	03/31/03	04/01/03
ARSENIC LABORATORY	LC1 BS	S	03L0172	N/A	03/31/03	04/01/03
ARSENIC, TOTAL	MB1	S	03L0172	N/A	03/31/03	04/01/03
BARIUM LABORATORY	LC1 BS	S	03L0172	N/A	03/31/03	04/01/03
BARIUM, TOTAL	MB1	S	03L0172	N/A	03/31/03	04/01/03
CADMIUM LABORATORY	LC1 BS	S	03L0172	N/A	03/31/03	04/01/03
CADMIUM, TOTAL	MB1	S	03L0172	N/A	03/31/03	04/01/03
CHROMIUM LABORATORY	LC1 BS	S	03L0172	N/A	03/31/03	04/01/03
CHROMIUM, TOTAL	MB1	S	03L0172	N/A	03/31/03	04/01/03
MERCURY LABORATORY	LC1 BS	S	03C0063	N/A	04/01/03	04/02/03
MERCURY, TOTAL	MB1	S	03C0063	N/A	04/01/03	04/02/03
LEAD LABORATORY	LC1 BS	S	03L0172	N/A	03/31/03	04/01/03
LEAD, TOTAL	MB1	S	03L0172	N/A	03/31/03	04/01/03
SELENIUM LABORATORY	LC1 BS	S	03L0172	N/A	03/31/03	04/01/03
SELENIUM, TOTAL	MB1	S	03L0172	N/A	03/31/03	04/01/03
SILVER LABORATORY	LC1 BS	W	03L0170	N/A	03/31/03	04/02/03
SILVER, TCLP LEACHAT	MB1	W	03L0170	N/A	03/31/03	04/02/03
SILVER, TCLP LEACHAT	MB2	W	03L0170	N/A	03/31/03	04/02/03
ARSENIC LABORATORY	LC1 BS	W	03L0170	N/A	03/31/03	04/02/03
ARSENIC, TCLP LEACHA	MB1	W	03L0170	N/A	03/31/03	04/02/03
ARSENIC, TCLP LEACHA	MB2	W	03L0170	N/A	03/31/03	04/02/03

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-017 H2118

DATE RECEIVED: 03/28/03 LVL LOT # :0303L059

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BARIUM LABORATORY	LC1 BS	W	03L0170	N/A	03/31/03	04/02/03
BARIUM, TCLP LEACHAT	MB1	W	03L0170	N/A	03/31/03	04/02/03
BARIUM, TCLP LEACHAT	MB2	W	03L0170	N/A	03/31/03	04/02/03
CADMIUM LABORATORY	LC1 BS	W	03L0170	N/A	03/31/03	04/02/03
CADMIUM, TCLP LEACHA	MB1	W	03L0170	N/A	03/31/03	04/02/03
CADMIUM, TCLP LEACHA	MB2	W	03L0170	N/A	03/31/03	04/02/03
CHROMIUM LABORATORY	LC1 BS	W	03L0170	N/A	03/31/03	04/02/03
CHROMIUM, TCLP LEACH	MB1	W	03L0170	N/A	03/31/03	04/02/03
CHROMIUM, TCLP LEACH	MB2	W	03L0170	N/A	03/31/03	04/02/03
MERCURY LABORATORY	LC1 BS	W	03C0062	N/A	03/31/03	04/01/03
MERCURY, TOTAL	MB1	W	03C0062	N/A	03/31/03	04/01/03
MERCURY, TCLP LEACHA	MB2	W	03C0062	N/A	03/31/03	04/01/03
MERCURY, TCLP LEACHA	MB3	W	03C0062	N/A	03/31/03	04/01/03
LEAD LABORATORY	LC1 BS	W	03L0170	N/A	03/31/03	04/02/03
LEAD, TCLP LEACHATE	MB1	W	03L0170	N/A	03/31/03	04/02/03
LEAD, TCLP LEACHATE	MB2	W	03L0170	N/A	03/31/03	04/02/03
SELENIUM LABORATORY	LC1 BS	W	03L0170	N/A	03/31/03	04/02/03
SELENIUM, TCLP LEACH	MB1	W	03L0170	N/A	03/31/03	04/02/03
SELENIUM, TCLP LEACH	MB2	W	03L0170	N/A	03/31/03	04/02/03

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B03-017
LVL#: 0303L059
SDG/SAF#: H2118/B03-017

W.O.#: 11343-606-001-9999-00
Date Received: 03-28-03

METALS CASE NARRATIVE

1. This narrative covers the analyses of 3 solid samples and 2 TCLP leachate samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary.

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

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

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits with the exception of Cadmium CCVs in file TA0401B. All samples above the IDL were rerun in file TA0402A.

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

7. All preparation/method blanks (MB) were within method criteria {less than the Practical Quantitation Limit (3X the IDL), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

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

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

10. The matrix spike (MS) recoveries for 3 analytes were outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.

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

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 19 pages.

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J00JW3	Silver	100	101.8
	Chromium	100	97.1
	Lead	100	85.8

12. The duplicate analyses for 5 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

13. The TCLP extract from sample J00JW3 for Mercury and J00JW4 for ICP were selected for the matrix spikes (MS) for this analytical batch. All MS recoveries were greater than 50% as per method criteria.

14. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.

15. 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

04-04-03
Date

gmb/m03-059

LVLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Lot#: 03031059

Leaching Procedure: __1310✓__1311 __1312 __Other:_____

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

Metals Digestion Methods: __3005A ✓3010A __3015 __3020A ✓3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B		__200.7				__99
Antimony	__6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	✓6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	✓6010B		__200.7				__99
Beryllium	__6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	__6010B		__200.7				__99
Cadmium	✓6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	__6010B		__200.7				__99
Chromium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	__6010B		__200.7				__99
Copper	__6010B	__7211 [5]	__200.7	__220.2			__99
Iron	__6010B		__200.7				__99
Lead	✓6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	__6010B		__200.7				__99
Manganese	__6010B		__200.7				__99
Mercury	✓7470A [3]	✓7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B		__200.7				__99
Nickel	__6010B		__200.7				__99
Potassium	__6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	✓6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	✓6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	__6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B		__200.7				__99
Thallium	__6010B	__7841 [5]	__200.7	__279.2__200.9			__99
Tin	__6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	__6010B [1]		__200.7 [1]			__1620	__99
Vanadium	__6010B		__200.7				__99
Zinc	__6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.

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

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/03/03

CLIENT: TNUHANFORD B03-017 H2118 LVL LOT #: 0303L059

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J00JW3	Silver, Total	1.0	MG/KG	0.09	1.0
		Arsenic, Total	7.1	MG/KG	0.39	1.0
		Barium, Total	122	MG/KG	0.01	1.0
		Cadmium, Total	1.2	MG/KG	0.04	1.0
		Chromium, Total	52.5	MG/KG	0.07	1.0
		Mercury, Total	0.17	MG/KG	0.02	1.0
		Lead, Total	3730	MG/KG	0.29	1.0
		Selenium, Total	0.40 u	MG/KG	0.40	1.0
-003	J00JW4	Silver, Total	9.7	MG/KG	0.08	1.0
		Arsenic, Total	9.0	MG/KG	0.34	1.0
		Barium, Total	124	MG/KG	0.01	1.0
		Cadmium, Total	2.0	MG/KG	0.04	1.0
		Chromium, Total	72.4	MG/KG	0.06	1.0
		Mercury, Total	0.13	MG/KG	0.02	1.0
		Lead, Total	716	MG/KG	0.25	1.0
		Selenium, Total	0.35 u	MG/KG	0.35	1.0
-004	J00K91	Silver, Total	0.48	MG/KG	0.08	1.0
		Arsenic, Total	1.5	MG/KG	0.35	1.0
		Barium, Total	38.9	MG/KG	0.01	1.0
		Cadmium, Total	0.30	MG/KG	0.04	1.0
		Chromium, Total	9.3	MG/KG	0.06	1.0
		Mercury, Total	0.41	MG/KG	0.02	1.0
		Lead, Total	44.3	MG/KG	0.26	1.0
		Selenium, Total	0.60	MG/KG	0.36	1.0
-005	J00JW3	Silver, TCLP Leachate	3.3 u	UG/L	3.3	1.0
		Arsenic, TCLP Leachate	39.1 u	UG/L	39.1	1.0
		Barium, TCLP Leachate	345	UG/L	3.7	1.0
		Cadmium, TCLP Leachate	14.1	UG/L	4.8	1.0
		Chromium, TCLP Leachate	13.5	UG/L	5.3	1.0
		Mercury, TCLP Leachate	0.10 u	UG/L	0.10	1.0
		Lead, TCLP Leachate	519	UG/L	34.9	1.0
		Selenium, TCLP Leachate	70.3 u	UG/L	70.3	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/03/03

CLIENT: TNUHANFORD B03-017 H2118

LVL LOT #: 0303L059

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	J00JW4	Silver, TCLP Leachate	3.5		UG/L	3.3	1.0
		Arsenic, TCLP Leachate	39.1	u	UG/L	39.1	1.0
		Barium, TCLP Leachate	408		UG/L	3.7	1.0
		Cadmium, TCLP Leachate	16.7		UG/L	4.8	1.0
		Chromium, TCLP Leachate	13.5		UG/L	5.3	1.0
		Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0
		Lead, TCLP Leachate	2740		UG/L	34.9	1.0
		Selenium, TCLP Leachate	70.3	u	UG/L	70.3	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/03/03

CLIENT: TNUHANFORD B03-017 H2118

LVL LOT #: 0303L059

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	03L0172-MB1	Silver, Total	0.08	u	MG/KG	0.08	1.0
		Arsenic, Total	0.35	u	MG/KG	0.35	1.0
		Barium, Total	0.05		MG/KG	0.01	1.0
		Cadmium, Total	0.04	u	MG/KG	0.04	1.0
		Chromium, Total	0.20		MG/KG	0.06	1.0
		Lead, Total	0.26	u	MG/KG	0.26	1.0
		Selenium, Total	0.36	u	MG/KG	0.36	1.0
BLANK1	03C0063-MB1	Mercury, Total	0.02	u	MG/KG	0.02	1.0
BLANK1	03L0170-MB1	Silver, TCLP Leachate	3.3	u	UG/L	3.3	1.0
		Arsenic, TCLP Leachate	39.1	u	UG/L	39.1	1.0
		Barium, TCLP Leachate	3.7	u	UG/L	3.7	1.0
		Cadmium, TCLP Leachate	4.8	u	UG/L	4.8	1.0
		Chromium, TCLP Leachate	5.3	u	UG/L	5.3	1.0
		Lead, TCLP Leachate	34.9	u	UG/L	34.9	1.0
		Selenium, TCLP Leachate	70.3	u	UG/L	70.3	1.0
BLANK2	03L0170-MB2	Silver, TCLP Leachate	3.3	u	UG/L	3.3	1.0
		Arsenic, TCLP Leachate	39.1	u	UG/L	39.1	1.0
		Barium, TCLP Leachate	3.7	u	UG/L	3.7	1.0
		Cadmium, TCLP Leachate	4.8	u	UG/L	4.8	1.0
		Chromium, TCLP Leachate	5.3	u	UG/L	5.3	1.0
		Lead, TCLP Leachate	34.9	u	UG/L	34.9	1.0
		Selenium, TCLP Leachate	70.3	u	UG/L	70.3	1.0
BLANK1	03C0062-MB1	Mercury, Total	0.10	u	UG/L	0.10	1.0
BLANK2	03C0062-MB2	Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0
BLANK3	03C0062-MB3	Mercury, TCLP Leachate	0.10	u	UG/L	0.10	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 04/03/03

CLIENT: TNUHANFORD B03-017 H2118 LVL LOT #: 0303L059

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	J00JW3	Silver, Total	12.8	1.0	5.4	218.5	1.0
		Arsenic, Total	209	7.1	216	93.4	1.0
		Barium, Total	342	122	216	101.5	1.0
		Cadmium, Total	6.9	1.2	5.4	105.6	1.0
		Chromium, Total	104	52.5	21.6	238.0	1.0
		Mercury, Total	0.32	0.17	0.17	84.9	1.0
		Lead, Total	1600	3730	54.1	-3900. *	1.0
		Selenium, Total	194	0.40u	216	89.6	1.0
-005	J00JW3	Mercury, TCLP Leachate	168	0.10u	200	83.9	50.0
-006	J00JW4	Silver, TCLP Leachate	2780	3.5	5000	55.5	1.0
		Arsenic, TCLP Leachate	4840	39.1 u	5000	96.9	1.0
		Barium, TCLP Leachate	101000	408	100000	101.0	5.0
		Cadmium, TCLP Leachate	950	16.7	1000	93.3	1.0
		Chromium, TCLP Leachat	4740	13.5	5000	94.5	1.0
		Lead, TCLP Leachate	7510	2740	5000	95.4	1.0
		Selenium, TCLP Leachat	1010	70.3 u	1000	100.8	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 04/03/03

CLIENT: TNUHANFORD B03-017 H2118 LVL LOT #: 0303L059

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD		DILUTION FACTOR(REP)
-002REP	J00JW3	Silver, Total	1.0	8.2	156.5		1.0
		Arsenic, Total	7.1	6.8	4.3		1.0
		Barium, Total	122	128	4.6		1.0
		Cadmium, Total	1.2	1.6	28.6		1.0
		Chromium, Total	52.5	55.0	4.7		1.0
		Mercury, Total	0.17	0.14	20.2		1.0
		Lead, Total	3730	1330	94.7		1.0
		Selenium, Total	0.40u	0.40u	NC		1.0
-005REP	J00JW3	Silver, TCLP Leachate	3.3 u	5.8	NC	200	1.0
		Arsenic, TCLP Leachate	39.1 u	39.1 u	NC	MJB	1.0
		Barium, TCLP Leachate	345	353	2.4	4/3/03	1.0
		Cadmium, TCLP Leachate	14.1	17.1	19.2		1.0
		Chromium, TCLP Leachate	13.5	12.1	10.9		1.0
		Mercury, TCLP Leachate	0.10u	0.10u	NC		1.0
		Lead, TCLP Leachate	519	502	3.3		1.0
		Selenium, TCLP Leachate	70.3 u	70.3 u	NC		1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 04/03/03

CLIENT: TNUHANFORD B03-017 H2118 LVL LOT #: 0303L059

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	03L0172-LC1	Silver, LCS	50.1	50.0	MG/KG	100.2
		Arsenic, LCS	971	1000	MG/KG	97.1
		Barium, LCS	506	500	MG/KG	101.3
		Cadmium, LCS	25.7	25.0	MG/KG	102.8
		Chromium, LCS	52.2	50.0	MG/KG	104.4
		Lead, LCS	256	250	MG/KG	102.3
		Selenium, LCS	938	1000	MG/KG	93.8
LCS1	03C0063-LC1	Mercury, LCS	7.0	6.2	MG/KG	112.4
LCS1	03L0170-LC1	Silver, LCS	509	500	UG/L	101.8
		Arsenic, LCS	10300	10000	UG/L	103.1
		Barium, LCS	5140	5000	UG/L	102.7
		Cadmium, LCS	256	250	UG/L	102.4
		Chromium, LCS	515	500	UG/L	103.1
		Lead, LCS	2540	2500	UG/L	101.5
		Selenium, LCS	10300	10000	UG/L	102.7
LCS1	03C0062-LC1	Mercury, LCS	4.5	5.0	UG/L	89.4

Lionville Laboratory Use Only

03031059

Custody Transfer Record/Lab Work Request

Page 1 of

LVLI LIONVILLE LABORATORY INC.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU Hanford B03-017

Est. Final Proj. Sampling Date:

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

Project Contact/Phone #:

Lionville Laboratory Project Manager: Arlette Johnson

QC: Spec Del: Std TAT: 7 days

Date Rec'd: 3-28-03 Date Due: 4-4-03

		A	B	C	D	E	F
Refrigerator #		1	60	60	60	60	60
#/Type Container	Liquid						
	Solid	1 jar	1 jar	1 jar	1 jar	1 jar	1 jar
Volume	Liquid						
	Solid	60	120	120	60	60	60
Preservatives		—	—	—	—	—	—
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb	INORG: Metal (2)	CN
						Metal (3)	TPH

Lionville Laboratory Use Only

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	OC24H	OC35H	OC80H OPCB					Met①		TTCLP	TPHC		Met①		
001	J00K90			~~SO~~ SO	3-25-03	0840	X	X	X												
002	J00JW3			SO		0910		X	X					X		X	X				
003	J00JW4					L		X	X					X		X	X				
004	J00K91					1445	X	X	X					X							
005	J00JW3 tcp of 002			L	*	*													✓		
006	1 4 1 003																		✓		
~~007~~																					

Special Instructions: SAF # B03-017

Run Matrix QC

Met① : As, Ba, Cd, Cr, Pb, Se, Ag, Hg

* See labchron

DATE/REVISIONS:

→ 1. #001 BNA, P/PCB analysis =

2. 1 120ml glass.

4-1-03 3. Sample -001 change Matrix to Oil

4.

5.

6.

Relinquished by	Received by	Date	Time
FedEx	D Smith	3-28-03	0930

Relinquished by	Received by	Date	Time
COMPOSITE WASTE			

ORIGINAL REWRITTEN

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

NOTES:

Lionville Laboratory Use Only

Samples were:
1) Shipped ✓ or
Hand Delivered ___
Airbill # 7928 5817 2102
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. 2.8 °C

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B03-017-028	Page 1 of 1
Collector R FAHLBERG	Company Contact M STANKOVICH	Telephone No. 372-9082	Project Coordinator KESSNER, JH	Price Code 9C Air Quality —
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017	Data Turnaround 7 Days
Ice Chest No. ERC 02 407	Field Logbook No. EL 1577	COA	Method of Shipment Fed Ex	
Shipped To TMA/RECRA	Offsite Property No. ~~NA~~ A030172		Bill of Lading/Air Bill No. ~~NA~~ SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	Cool 4C	Cool 4C	Cool 4C									
Type of Container	aG	aG	G									
No. of Container(s)	1	1	1									
Volume	~~120g~~ 120ml	~~125g~~ 120ml	~~20g~~ 60ml	RJN 3/27/03								
SAMPLE ANALYSIS	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)									

Sample No.	Matrix *	Sample Date	Sample Time										
J00K90	OTHER SOLID	3.25.03	0840	X	X	X							
~~J00K91~~	~~OTHER SOLID~~	~~3.25.03~~	~~1445~~										
RF 3.25.03													

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: R. Fahlberg R Fahlberg	Date/Time: 1630 3.25.03	Received By/Stored In: 3B 3728	Date/Time: 1630 3.25.03
Relinquished By/Removed From: 3B 3728	Date/Time: 32703 1000	Received By/Stored In: S.J GALE	Date/Time: 32703 1000
Relinquished By/Removed From: SJGALE	Date/Time: 32703 1000	Received By/Stored In: FED EX	Date/Time:
Relinquished By/Removed From: Fed Ex	Date/Time: 3.28.03 0930	Received By/Stored In: [illegible]	Date/Time: 3.28.03 0930
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

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=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 (03/01/2002)

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Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B03-017-21	Page 1 of 1

Collector Fahlberg	Company Contact M Stankovich	Telephone No. 372-9082	Project Coordinator KESSNER, JH
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017
Ice Chest No. ERC 02 407	Field Logbook No. EL 1577	COA C17HXB671C	Method of Shipment Fed EX
Shipped To TMA/RECRA	Offsite Property No. A030172		Bill of Lading/Air Bill No. SEE OSPC

Price Code 9C

Air Quality ☐

Data Turnaround 7 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially Radioactive

Special Handling and/or Storage

Preservation	None	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container	aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	1000mL	60mL	60mL	120mL	120mL	60mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	See item (3) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL) RJN 3/26/03	TPH (Total) - 418.1			

Sample No.	Matrix *	Sample Date	Sample Time										
J00JW3	OTHER SOLID	3·25·03	0910	X	X	X	X	X	X	X			
J00JW4	OTHER SOLID	3·25·03	0910	X	X	X	X	X	X	X			
									RJN 3/26/03				

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R. Fahlberg	1630 3·25·03	3B 3728	1630 3·25·03
3B 3728	32703 1000	SJGALE	32703 1000
SJGALE	32703 1000	FED EX	
Fed Ex	328.03 0930		328.03 0930

SPECIAL INSTRUCTIONS

(1) ~~Americium-241;~~ Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta; ~~Nickel-63; Isotopic Plutonium {Plutonium-238, Plutonium-239/240}; Strontium-89,90 - Total Sr; Technetium-99; Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238}~~ 3/26/03 RJN

(2) ICP Metals - 6010TR (Client List) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury - 7471 - (CV)

(3) Metals by ICP (TCLP) - 1311/6010 {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury (TCLP) - 1311/7470

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *

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

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

BHI-EE-011 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B03-017-38	Page 1 of 1

Collector R FAHLBERG	Company Contact M STANKOVICH	Telephone No. 372-9082	Project Coordinator KESSNER, JH
Project Designation Remaining Sites Confirmation Sampling-Other Solid	Sampling Location 128-C-1		SAF No. B03-017
Ice Chest No. ERC 02-407	Field Logbook No. EL 1577	COA C17HXB671C	Method of Shipment Fed Ex
Shipped To: TMA/RECRA	Offsite Property No. ~~NA~~ A030172		Bill of Lading/Air Bill No. ~~NA~~ SEE OSPC

Price Code 9C

Air Quality ☐

Data Turnaround 7 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	None	None	Cool 4C	Cool 4C	Cool 4C						
Type of Container	aG	aG	aG	aG	G						
No. of Container(s)	1	1	1	1	1						
Volume	1000mL	60mL	120g	125g	20g						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)						

Sample No.	Matrix *	Sample Date	Sample Time										
J00K91	OTHER SOLID	3-25-03	1445	X	X	X	X	X					

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R.F. Fahlberg R.F. Fahlberg	1630 3-25-03	3B 3728	1630 3-25-03
3B 3728	32703 1000	SJ Gale	32703 1000
SJ Gale	32703 1000	FED EX	
Fed Ex	3-28-03 0930		3-28-03 0930

SPECIAL INSTRUCTIONS

(1) ~~Americium-241~~, Gamma Spectroscopy (TCL List) [Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155]; Gross Alpha & Gross Beta; ~~Nickel-63, Isotopic Plutonium [Plutonium-238, Plutonium-239/240], Strontium-89,90, Total Sr, Technetium-99, Isotopic Uranium [Uranium-233/234, Uranium-235, Uranium-238]~~ RJN 3/27/03

(2) ICP Metals - 6010TR (Client List) [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from the 3728 Ref# 3B on 3/27/03

Matrix *

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

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

LIONVILLE LABORATORY INCORPORATED
SAMPLE RECEIPT CHECKLIST

LIENT: TNU Hanford

rchase Order/Project:

DATE: 3-29-03

AF#/ SOW# / Release #: B03-017

boratory SDG #: Q3031059

OTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

1. Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
2. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
3. Airbill # recorded?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
5. Sample containers are intact?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
7. All samples on coc received?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
8. All sample label information matches coc?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	☐ No	☑ N/A	☐ see Comment #
10. Shipment meets LvLI Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
11. Where applicable, bar code labels are affixed to coc?	☐ Yes	☐ No	☑ N/A	☐ see Comment #
12. coc signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
13. coc will be faxed or emailed to client?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
14. Project Manager/Client contacted concerning discrepancies? (name/date)	☐ Yes	☐ No	☑ N/A	☐ see Comment #

Cooler # / temp (°C) and Comments:

ERC 02-407 / 2.8°C

Laboratory Sample Custodian:

Laboratory Project Manager:

RECEIVED
APR 2003

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B03-017 H2118

DATE RECEIVED: 03/28/03 LVL LOT # :0303L059

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00K90						
% SOLIDS	001	SO	03L%S044	03/25/03	03/28/03	03/31/03
J00JW3						
% SOLIDS	002	SO	03L%S044	03/25/03	03/28/03	03/31/03
PETROLEUM HYDROCARBO	002	SO	03LHC010	03/25/03	03/31/03	03/31/03
PETROLEUM HYDROCARBO	002 MS	SO	03LHC010	03/25/03	03/31/03	03/31/03
PETROLEUM HYDROCARBO	002 MSD	SO	03LHC010	03/25/03	03/31/03	03/31/03
TCLP	002	SO	03LTO042	03/25/03	03/28/03	03/29/03
J00JW4						
% SOLIDS	003	SO	03L%S044	03/25/03	03/28/03	03/31/03
PETROLEUM HYDROCARBO	003	SO	03LHC010	03/25/03	03/31/03	03/31/03
TCLP	003	SO	03LTO042	03/25/03	03/28/03	03/29/03
J00K91						
% SOLIDS	004	SO	03L%S044	03/25/03	03/28/03	03/31/03
% SOLIDS	004 REP	SO	03L%S044	03/25/03	03/28/03	03/31/03

LAB QC:

PETROLEUM HYDROCARBO	LC1 BS	S	03LHC010	N/A	03/31/03	03/31/03
PETROLEUM HYDROCARBO	MB1	S	03LHC010	N/A	03/31/03	03/31/03

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B03-017 H2118
LVL#: 0303L059

W.O.#: 11343-606-001-9999-00
Date Received: 03-28-03

INORGANIC NARRATIVE

1. This narrative covers the analyses of 4 solid samples.

2. The samples were prepared and analyzed in accordance with the methods checked on the attached glossary.

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

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

5. The method blank for Petroleum Hydrocarbon (PHC) were within the method criteria.

6. The Laboratory Control Sample (LCS) for PHC was within the laboratory control limits.

7. The matrix spike recoveries for PHC were within the 75-125% control limits. The matrix spike duplicate was outside the 20% Relative Percent Difference (RPD) control limit that may be attributed to sample inhomogeneity.

8. The replicate analysis for Percent Solids was within the 20% RPD control limit.

9. Results for solid samples are reported on a dry weight basis.

10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

04-03-03
Date

njp\i03-059

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 14 pages.

208 Welsh Pool Road • Lionville, PA 19341-1333 • (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:	**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 04/01/03

CLIENT: TNU-HANFORD B03-017

LVL LOT #: 0303L059

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J00K90	% Solids	92.8	%	0.01	1.0
-002	J00JW3	% Solids	88.1	%	0.01	1.0
		Petroleum Hydrocarbons	50.6	MG/KG	3.8	1.0
-003	J00JW4	% Solids	87.4	%	0.01	1.0
		Petroleum Hydrocarbons	43.1	MG/KG	3.8	1.0
-004	J00K91	% Solids	94.5	%	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/01/03

CLIENT: TNU-HANFORD B03-017

LVL LOT #: 0303L059

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	03LHC010-MB1	Petroleum Hydrocarbons	3.3	u	MG/KG	3.3	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 04/01/03

CLIENT: TNU-HANFORD B03-017 LVL LOT #: 0303L059

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	J00JW3	Petroleum Hydrocarbons	215	50.6	159	103.7	1.0
		Petroleum Hydrocarbons	191	50.6	159	88.4	1.0
LCS10	03LHC010-LC1	Petroleum Hydrocarbons	150	3.3 u	140	107.3	1.0

Lionville Laboratory, Inc.

INORGANICS DUPLICATE SPIKE REPORT 04/01/03

CLIENT: TNU-HANFORD B03-017 LVL LOT #: 0303L059

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

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
-002	J00JW3	Petroleum Hydrocarbons	103.7	88.4	15.9

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 04/01/03

CLIENT: TNU-HANFORD B03-017 LVL LOT #: 0303L059

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-004REP	J00K91	% Solids	94.5	93.5	1.1	1.0

Lionville Laboratory Use Only

03031059

Custody Transfer Record/Lab Work Request

Page 1 of ___

LVLI LIONVILLE LABORATORY INC.

10

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU Hanford B03-017

Est. Final Proj. Sampling Date: ___

Project #: 11343-6006-001-9999-00

Project Contact/Phone #: ___

Lionville Laboratory Project Manager: Arlette Johnson

QC: Spec Del: Std TAT: 7 days

Date Rec'd: 3-28-03 Date Due: 4-4-03

		A	B	C					D		E	F				
Refrigerator #		1	6	6					6		6	6				
#/Type Container	Liquid															
	Solid	1 ag	1 ag	1 ag					1 ag		1 ag	1 ag				
Volume	Liquid															
	Solid	60	120	120					60		60	60				
Preservatives		—	—	—					—		—	—				
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				Metal (2)	CN	Metals (3)	TPH				
		Lionville Laboratory Use Only														
		0624H	0625H	0608H 0PCB					met ①		ITCLP	IPHC		met ①		

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	0624H	0625H	0608H 0PCB					met ①		ITCLP	IPHC		met ①		
001	J00K90			SO	3-25-03	0840	X	X	X												
002	J00JW3			↓	↓	0910		X	X					X		X	X				
003	J00JW4			↓	↓	↓		X	X					X		X	X				
004	J00K91			↓	↓	1445	X	X	X					X							
005	J00JW3 tclp of 002			L	*	*													✓		
006	↓ 4 ↓ 003			↓	↓	↓													✓		
~~007~~																					

TR 3/28/03

Special Instructions: Saf # B03-017

Run Matrix QC

met ①: As, Ba, Cd, Cr, Pb, Se, Ag, Hg

* See labchron

DATE/REVISIONS:

→ 1. #001 BNA, P/PCB analysis =

2. 1 120ml glass.

3.

4.

5.

6.

Lionville Laboratory Use Only

Samples were:
1) Shipped ✓ or Hand Delivered ___
Airbill # 7928 5817 2102
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. 2.8 °C

Relinquished by	Received by	Date	Time
Fed Ex	D Smith	3-28-03	0930

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

11

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B03-017-028	Page 1 of 1
Collector: R FAHLBERG	Company Contact: M STANKOVICH	Telephone No.: 372-9082	Project Coordinator: KESSNER, JH	Price Code: 9C; Data Turnaround: 7 Days
Project Designation: Remaining Sites Confirmation Sampling-Other Solid	Sampling Location: 128-C-1		SAF No.: B03-017	Air Quality: —
Ice Chest No.: ERC 02 407	Field Logbook No.: EL 1577	COA	Method of Shipment: Fed Ex	
Shipped To: TMA/RECRA	Offsite Property No.: ~~NA~~ A030172		Bill of Lading/Air Bill No.: ~~NA~~ SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	Cool 4C	Cool 4C	Cool 4C									
Type of Container	aG	aG	G									
No. of Container(s)	1	10	1									
Volume	~~120g~~ 120ml	~~125g~~ 120ml	~~20g~~ 60ml	RJN 3/27/03								
SAMPLE ANALYSIS	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)									

Sample No.	Matrix *	Sample Date	Sample Time										
J00K90	OTHER SOLID	3.25.03	0840	X	X	X							
~~J00K91~~	~~OTHER SOLID~~	~~3.25.03~~	~~1445~~										
RF 3.29.03													

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix *
Relinquished By/Removed From: R. Fahlberg Date/Time: 1630 3.25.03	Received By/Stored In: 3B 3728 Date/Time: 1630 3.25.03		S=Soil SE=Sediment SO=Solid SI=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From: 3B 3728 Date/Time: 32703 1000	Received By/Stored In: S.J GALE Date/Time: 32703 1000		
Relinquished By/Removed From: S.J GALE Date/Time: 32703 1000	Received By/Stored In: FED EX Date/Time:	Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03	
Relinquished By/Removed From: Fed Ex Date/Time: 3.28.03 0930	Received By/Stored In: [signature] Date/Time: 3.28.03 0930		
Relinquished By/Removed From: Date/Time:	Received By/Stored In: Date/Time:		
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

BHI-EE-011 (03/01/2002)

12

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B03-017-21	Page 1 of 1
Collector: Fahlberg	Company Contact: M Stankovich	Telephone No.: 372-9082	Project Coordinator: KESSNER, JH	Price Code: 9C; Air Quality ☐; Data Turnaround: 7 Days
Project Designation: Remaining Sites Confirmation Sampling-Other Solid	Sampling Location: 128-C-1		SAF No.: B03-017	
Ice Chest No.: ERC 02 407	Field Logbook No.: EL 1577	COA: C17HXB671C	Method of Shipment: Fed EX	
Shipped To: TMA/RECRA	Offsite Property No.: A030172		Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potentially Radioactive

Special Handling and/or Storage

Preservation	None	None	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Type of Container	aG	aG	aG	aG	aG	aG	aG			
No. of Container(s)	1	1	1	1	1	1	1			
Volume	1000mL	60mL	60mL	120mL	120mL	60mL	60mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	See item (3) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL) RJN 3/26/03	TPH (Total) - 418.1			

Sample No.	Matrix *	Sample Date	Sample Time										
J00JW3	OTHER SOLID	3·25·03	0910	X	X	X	X	X	X	X			
J00JW4	OTHER SOLID	3·25·03	0910	X	X	X	X	X	X	X			
									RJN 3/26/03				

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: R. Fahlberg / Date/Time: 1630 3·25·03	Received By/Stored In: 3B 3728 / Date/Time: 1630 3·25·03		
Relinquished By/Removed From: 3B 3728 / Date/Time: 32703 1000	Received By/Stored In: SJGALE / Date/Time: 32703 1000		
Relinquished By/Removed From: SJGALE / Date/Time: 32703 1000	Received By/Stored In: FED EX / Date/Time:		
Relinquished By/Removed From: Fed Ex / Date/Time: 328·03 0930	Received By/Stored In: [signature] / Date/Time: 328·03 0930		
Relinquished By/Removed From: / Date/Time:	Received By/Stored In: / Date/Time:		
Relinquished By/Removed From: / Date/Time:	Received By/Stored In: / Date/Time:		

SPECIAL INSTRUCTIONS

(1) ~~Americium-241;~~ Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gross Alpha & Gross Beta; ~~Nickel-63; Isotopic Plutonium {Plutonium-238, Plutonium-239/240}; Strontium-89,90 - Total Sr; Technetium-99; Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238}~~ 3/26/03 RJN

(2) ICP Metals - 6010TR (Client List) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury - 7471 - (CV)

(3) Metals by ICP (TCLP) - 1311/6010 {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; Mercury (TCLP) - 1311/7470

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=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 (03/01/2002)

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B03-017-38	Page 1 of 1
Collector: R FAHLBERG	Company Contact: M STANKOVICH	Telephone No.: 372-9082	Project Coordinator: KESSNER, JH	Price Code: 9C
Project Designation: Remaining Sites Confirmation Sampling-Other Solid	Sampling Location: 128-C-1		SAF No.: B03-017	Air Quality ☐
Ice Chest No.: ERC 02-407	Field Logbook No.: EL 1577	COA: C17HXB671C	Method of Shipment: Fed Ex	Data Turnaround: 7 Days
Shipped To: TMA/RECRA	Offsite Property No.: ~~NA~~ A030172		Bill of Lading/Air Bill No.: ~~NA~~ SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIALLY RADIOACTIVE

Special Handling and/or Storage

NONE

Preservation	None	None	Cool 4C	Cool 4C	Cool 4C							
Type of Container	aG	aG	aG	aG	G							
No. of Container(s)	1	1	1	1	1							
Volume	1000mL	60mL	120g	125g	20g							
SAMPLE ANALYSIS	See item (1) in Special Instructions. 32703	See item (2) in Special Instructions.	Pesticides - 8081; PCBs - 8082	Semi-VOA - 8270A (TCL)	VOA - 8260A (TCL)							

Sample No.	Matrix *	Sample Date	Sample Time										
J00K91	OTHER SOLID	3-25-03	1445	X	X	X	X	X					

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R.F. Fahlberg R.F. Fahlberg	1630 3-25-03	3B 3728	1630 3-25-03
3B 3728	32703 1000	SJ Gale	32703 1000
SJ Gale	32703 1000	FED EX	
Fed Ex	3-28-03 0930		3-28-03 0930

SPECIAL INSTRUCTIONS

(1) ~~Americium-241~~, Gamma Spectroscopy (TCL List) [Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155]; Gross Alpha & Gross Beta; ~~Nickel-63, Isotopic Plutonium [Plutonium-238, Plutonium-239/240]; Strontium-89,90 - Total Sr; Technetium-99; Isotopic Uranium [Uranium-233/234, Uranium-235, Uranium-238]~~ RJN 3/27/03

(2) ICP Metals - 6010TR (Client List) [Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver]; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from the 3728 Ref # 3B on 3/27/03

Matrix *

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

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

BHI-EE-011 (03/01/2002)

13

SAMPLE RECEIPT CHECKLIST

CLIENT: TNU Hanford

Purchase Order/Project:

DATE: 3-28-03

SAF# / SOW# / Release #: B03-017

Laboratory SDG #: 0303L059

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION

1. Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
2. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
3. Airbill # recorded?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
4. All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
5. Sample containers are intact?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
7. All samples on coc received?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
8. All sample label information matches coc?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
9. Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	☐ No	☑ N/A	☐ see Comment #
10. Shipment meets LvLI Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No	☐ N/A	☐ see Comment #
11. Where applicable, bar code labels are affixed to coc?	☐ Yes	☐ No	☑ N/A	☐ see Comment #
12. coc signed and dated?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
13. coc will be faxed or emailed to client?	☑ Yes	☐ No	☐ N/A	☐ see Comment #
14. Project Manager/Client contacted concerning discrepancies? (name/date)	☐ Yes	☐ No	☑ N/A	☐ see Comment #

Cooler # / temp (°C) and Comments:

ERC 02-407 / 2.8°C

Laboratory Sample Custodian:

Laboratory Project Manager: