0066302

SAF-B05-018
Horseshoe Landfill Residual Pesticide Sampling – Soil
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Jeanette Duncan 3 copy clipped ___NB 8/12/05_
INITIAL/DATE

COMMENTS:

SDG _H3206_ SAF-B05-018

Rad only X Chem only Rad & Chem

X Complete Partial

RECEIVED
SEP 01 2005
EDMC

LvLI
LIONVILLE LABORATORY INC.

4 August 2005

RECEIVED AUG 2005

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 #	0506L713
SDG #	H3206
SAF #	B05-018
Date Received	6-9-05
# Samples	17
Matrix	Other Solid
Volatiles	X
Semivolatiles	X
Pest/PCB	X
PAH	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	X
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 • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

RECEIVED
AUG 2005

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B05-018 H3206

DATE RECEIVED: 06/09/05 LVL LOT # :0506L713

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J03CJ9	007	S	05LE0489	06/07/05	06/12/05	06/14/05
J03CH3	013	S	05LE0489	06/07/05	06/12/05	06/14/05
J03CH3	013 MS	S	05LE0489	06/07/05	06/12/05	06/14/05
J03CH3	013 MSD	S	05LE0489	06/07/05	06/12/05	06/14/05
LAB QC:						
SBLKLB	MB1	S	05LE0489	N/A	06/12/05	06/14/05
SBLKLB	MB1 BS	S	05LE0489	N/A	06/12/05	06/14/05

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD B05-018
LVL #: 0506L713
SDG/SAF # H3206/B05-018

W.O. #: 11343-606-001-9999-00
Date Received: 06-09-2005

SEMIVOLATILE

Two (2) soil samples were collected on 06-07-2005.

The samples and their associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3540C on 06-12-2005 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 06-14-2005.

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 these samples.
4. All surrogate recoveries were within acceptance criteria.
5. One (1) of one hundred twenty-eight (128) matrix spike recoveries was outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
6. One (1) of sixty-four (64) blank spike recoveries was outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
7. The method blank contained the common laboratory contaminants Diethylphthalate, Bis (2-Ethylhexy) phthalate and Di-n-butylphthalate at levels less than the CRQL.
8. Internal standard area and retention time criteria were met.
9. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").
10. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
11. 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

6/28/05
Date

som\gorup\data\bna\tnu-hanford\0506-713.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 8 pages.

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 05M5200

Initiator: Jim Daley
Date: 15 June 2005
Client: TMU Hanford B05-018

Batch: 05061713
Samples: MS & Spikes
Method: SW846/MCAWW/CLP/

Parameter: SV
Matrix: Soil
Prep Batch: 05LE0489

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)

New LCS Spiking Procedure
Several Spike Recoveries low
JPD WE 16 June 2005

2. Known or Probable Causes(s)

3. Discussion and Proposed Action Other Description:

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

NARRATE

4. Project Manager Instructions...signature/date: 6/15/05

✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
__ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: 6/28/05 Other Explanation:

✓ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

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

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.

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 resolve 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 - **Co-elution/ Background:** Peak was manually integrated to eliminate contribution from co-eluting compounds, background signal, or other interference.

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

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 06/16/05 16:10

RFW Batch Number: **0506L713** Client: **TNUHANFORD B05-018 H3206** Work Order: 11343606001 Page: 1a

	Cust ID:	J03CJ9	J03CH3	J03CH3	J03CH3	SBLKLB	SBLKLB BS
Sample Information	RFW#:	007	013	013 MS	013 MSD	05LE0489-MB1	05LE0489-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	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 Recovery	Nitrobenzene-d5	61 %	50 %	81 %	81 %	62 %	86 %
	2-Fluorobiphenyl	63 %	50 %	88 %	86 %	70 %	88 %
	Terphenyl-d14	77 %	64 %	96 %	94 %	77 %	96 %
	Phenol-d5	71 %	55 %	90 %	81 %	72 %	89 %
	2-Fluorophenol	58 %	45 %	75 %	72 %	59 %	81 %
	2,4,6-Tribromophenol	71 %	49 %	119 %	118 %	78 %	106 %
		fl	fl	fl	fl	fl	fl
Phenol		330 U	340 U	88 %	84 %	330 U	86 %
bis(2-Chloroethyl)ether		330 U	340 U	86 %	78 %	330 U	83 %
2-Chlorophenol		330 U	340 U	82 %	70 %	330 U	81 %
1,3-Dichlorobenzene		330 U	340 U	74 %	73 %	330 U	77 %
1,4-Dichlorobenzene		330 U	340 U	72 %	74 %	330 U	79 %
1,2-Dichlorobenzene		330 U	340 U	79 %	80 %	330 U	81 %
2-Methylphenol		330 U	340 U	85 %	85 %	330 U	85 %
2,2'-oxybis(1-Chloropropane)		330 U	340 U	84 %	77 %	330 U	78 %
4-Methylphenol		330 U	340 U	84 %	82 %	330 U	78 %
N-Nitroso-di-n-propylamine		330 U	340 U	81 %	82 %	330 U	80 %
Hexachloroethane		330 U	340 U	72 %	76 %	330 U	77 %
Nitrobenzene		330 U	340 U	79 %	75 %	330 U	80 %
Isophorone		330 U	340 U	76 %	80 %	330 U	78 %
2-Nitrophenol		330 U	340 U	77 %	78 %	330 U	78 %
2,4-Dimethylphenol		330 U	340 U	68 %	80 %	330 U	72 %
bis(2-Chloroethoxy)methane		330 U	340 U	81 %	82 %	330 U	82 %
2,4-Dichlorophenol		330 U	340 U	78 %	78 %	330 U	78 %
1,2,4-Trichlorobenzene		330 U	340 U	78 %	76 %	330 U	79 %
Naphthalene		330 U	340 U	72 %	72 %	330 U	73 %
4-Chloroaniline		330 U	340 U	89 %	88 %	330 U	87 %
Hexachlorobutadiene		330 U	340 U	86 %	89 %	330 U	90 %
4-Chloro-3-methylphenol		330 U	340 U	83 %	86 %	330 U	80 %
2-Methylnaphthalene		330 U	340 U	83 %	84 %	330 U	84 %
Hexachlorocyclopentadiene		330 U	340 U	73 %	72 %	330 U	69 %
2,4,6-Trichlorophenol		330 U	340 U	72 %	73 %	330 U	70 %
2,4,5-Trichlorophenol		840 U	850 U	89 %	84 %	830 U	80 %

*= Outside of EPA CLP QC limits.

RFW Batch Number: 0506L713 Client: TNUHANFORD B05-018 H3206 Work Order: 11343606001 Page: 1b

Cust ID:	J03CJ9		J03CH3		J03CH3		J03CH3		SBLKLB		SBLKLB BS	
RFW#:	007		013		013 MS		013 MSD		05LE0489-MB1		05LE0489-MB1	
2-Chloronaphthalene	330	U	340	U	82	%	81	%	330	U	80	%
2-Nitroaniline	840	U	850	U	84	%	87	%	830	U	80	%
Dimethylphthalate	330	U	340	U	87	%	87	%	330	U	79	%
Acenaphthylene	330	U	340	U	82	%	82	%	330	U	78	%
2,6-Dinitrotoluene	330	U	340	U	91	%	92	%	330	U	81	%
3-Nitroaniline	840	U	850	U	95	%	96	%	830	U	89	%
Acenaphthene	330	U	340	U	84	%	84	%	330	U	79	%
2,4-Dinitrophenol	840	U	850	U	41	%	13 *	%	830	U	8 *	%
4-Nitrophenol	840	U	850	U	61	%	61	%	830	U	57	%
Dibenzofuran	330	U	340	U	85	%	88	%	330	U	82	%
2,4-Dinitrotoluene	330	U	340	U	88	%	88	%	330	U	80	%
Diethylphthalate	46	JB	340	U	90	%	91	%	30	J	79	%
4-Chlorophenyl-phenylether	330	U	340	U	86	%	89	%	330	U	83	%
Fluorene	330	U	340	U	85	%	85	%	330	U	78	%
4-Nitroaniline	840	U	850	U	84	%	79	%	830	U	79	%
4,6-Dinitro-2-methylphenol	840	U	850	U	90	%	77	%	830	U	58	%
N-Nitrosodiphenylamine (1)	330	U	340	U	75	%	79	%	330	U	71	%
4-Bromophenyl-phenylether	330	U	340	U	90	%	94	%	330	U	85	%
Hexachlorobenzene	330	U	340	U	108	%	108	%	330	U	95	%
Pentachlorophenol	840	U	850	U	102	%	107	%	830	U	88	%
Phenanthrene	330	U	340	U	87	%	90	%	330	U	81	%
Anthracene	330	U	340	U	87	%	91	%	330	U	80	%
Carbazole	330	U	340	U	100	%	100	%	330	U	88	%
Di-n-butylphthalate	85	JB	340	U	95	%	97	%	19	J	86	%
Fluoranthene	330	U	340	U	95	%	99	%	330	U	86	%
Pyrene	330	U	340	U	79	%	79	%	330	U	78	%
Butylbenzylphthalate	330	U	340	U	85	%	85	%	330	U	83	%
3,3'-Dichlorobenzidine	330	U	340	U	101	%	100	%	330	U	97	%
Benzo(a)anthracene	330	U	340	U	75	%	73	%	330	U	71	%
Chrysene	330	U	340	U	77	%	76	%	330	U	74	%
bis(2-Ethylhexyl)phthalate	190	JB	75	JB	81	%	78	%	38	J	80	%
Di-n-octyl phthalate	330	U	340	U	80	%	80	%	330	U	81	%
Benzo(b)fluoranthene	330	U	340	U	102	%	102	%	330	U	103	%
Benzo(k)fluoranthene	330	U	340	U	76	%	72	%	330	U	73	%
Benzo(a)pyrene	330	U	340	U	92	%	88	%	330	U	86	%
Indeno(1,2,3-cd)pyrene	330	U	340	U	105	%	102	%	330	U	94	%
Dibenz(a,h)anthracene	330	U	340	U	104	%	101	%	330	U	93	%
Benzo(g,h,i)perylene	330	U	340	U	111	%	104	%	330	U	89	%

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J03CJ9

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

Client: TNUHANFORD B05-018 H3206

Matrix: (soil/water) SOIL

Lab Sample ID: 0506L713-007

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

Lab File ID: C061405

Level: (low/med) LOW

Date Received: 06/09/05

% Moisture: 0 decanted: (Y/N)__

Date Extracted: 06/12/05

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 06/14/05

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	1.245	300	J
2. 75-09-02	METHYLENE CHLORIDE	1.882	70	JN
3.	UNKNOWN	20.026	80	J
4.	UNKNOWN	21.125	100	J
5.	PHTHALATE	21.648	100	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J03CH3

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

Client: TNUHANFORD B05-018 H3206

Matrix: (soil/water) SOIL

Lab Sample ID: 0506L713-013

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

Lab File ID: C061406

Level: (low/med) LOW

Date Received: 06/09/05

% Moisture: 2 decanted: (Y/N)__

Date Extracted: 06/12/05

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 06/14/05

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	20.027	70	J
2.	UNKNOWN	21.021	80	J
3.	UNKNOWN	21.126	200	J
4.	UNKNOWN	22.843	100	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKLB

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

Client: TNUHANFORD B05-018 H3206

Matrix: (soil/water) SOIL

Lab Sample ID: 05LE0489-MB1

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

Lab File ID: C061403

Level: (low/med) LOW

Date Received: 06/12/05

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

Date Extracted: 06/12/05

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 06/14/05

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	21.641	80	J
2.	UNKNOWN	22.007	100	J

REVISION

Custody Transfer Record/Lab Work Request

Page 1 of 2

VLI

Lionville Laboratory Use Only: 0506L7K3

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

Client: TWL-HANFORD SAF# B05-018
Est. Final Proj. Sampling Date:
Project #: 11343-606-001-9999-00
Project Contact/Phone #:
Lionville Laboratory Project Manager: DJ
QC: Spec Del: Std TAT: 7 Days
Date Rec'd: 6/9/05 Date Due: 6/16/05

		A	B	C		D	E		F							
Refrigerator #		1	6	6		6	6		6							
#/Type Container	Liquid															
	Solid	G	G	G		G	G		G							
Volume	Liquid															
	Solid	250	250	250		120	500		250							
Preservatives							—		—							
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	~~Pest~~/PCB	Herb	PCT	Chlord Herb		Metal	CN						

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	6024H	6025H	OPCB		6008H	OHBGX		METALS(1)						
S - Soil	001	TO3 CT3			Soil	6-7-05	0819					1									
SE - Sediment	002	4					0822					1									
SO - Solid	003	5					0824					1									
SL - Sludge	004	6					0827					1									
W - Water	005	7					0830	1	1	1	~~6X~~	1	1		1						
O - Oil	006	8					0833					1									
A - Air	007	9					0730	1	1	1		1	1		1						
DS - Drum Solids	008	H 8					0804					1									
DL - Drum Liquids	009	9					0807					1									
L - EP/TCLP Leachate	010	10					0811					1									
WI - Wipe																					
X - Other																					
F - Fish																					

Lionville Laboratory Use Only

Special Instructions:

METALS(1) = RCRA TO + Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:
1. 6/10/05 007-A-C, EF added / cancelled Ar 005, per bottles received.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6/9/05	1000

Relinquished by	Received by	Date	Time

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

Lionville Laboratory Use Only

0506L713

Custody Transfer Record/Lab Work Request

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU-Hartford B05-018

Est. Final Proj. Sampling Date:

Project #:

Project Contact/Phone #: Allpg

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: Date Due:

		A	B	C		D	E		F						
Refrigerator #		1	6	6		6	6		6						
#/Type Container	Liquid / Solid	G	G	G		G	G		G						
Volume	Liquid / Solid	250	250	250		1L	500		250						
Preservatives		—	—	—		—	—		—						
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	~~Pest~~ PCB	Herb	Pest	CHLORO HERB		INORG: Metal	CN					
Lionville Laboratory Use Only		CL24H	CL25H	OPCB		OGO8H	OHBOX		METALS(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	CL24H	CL25H	OPCB		OGO8H	OHBOX		METALS(1)						
011	J03CJ1			6-7-05	0813	S					1									
012	2				0816						1									
013	H3				0741		1	1	1		1	1		1						
014	4				0752						1									
015	5				0755						1									
016	6				0759						1									
017	7				0801						1									

Special Instructions:

METALS(1) = MRCRATO + Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	6/7/05	1000

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

050GL713

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B05-018-001	Page 3 of 4

Collector Doug Bowers	Company Contact Doug Bowers	Telephone No. 531-0701	Project Coordinator KESSNER, JH
Price Code Air Quality	Data Turnaround 7 day		
Project Designation Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location Horse Shoe Landfill	SAF No. B05-018	
Ice Chest No. ERC03106	Field Logbook No. EL 1173-5	COA R602702000	Method of Shipment Fed Ex
Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A050238	Bill of Lading/Air Bill No. S05-0SPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C D	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					

	Sample No.	Matrix *	Sample Date	Sample Time										
1	J03CJ3	SOIL	6-7-05	0919					X				10	
2	J03CJ4	SOIL	↓	0822					X				11	
3	J03CJ5	SOIL	↓	0824					X				12	
4	J03CJ6	SOIL	↓	0827					X				13	
5	J03CJ7	SOIL	↓	0830					X				14	

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Doug Bowers	6-7-05 1615	Ref 2C 3728	6-7-05 1615
Relinquished By/Removed From	REF 2C 3728	6805 1030	SJ Oakes	6805 1030
Relinquished By/Removed From	SJ Oakes	6805 1030	FED EX	
Relinquished By/Removed From	FedEx	6-9-05 1000		6-9-05 1000
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) (Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc); Mercury - 7471 - (CV)

Personnel not available to Relinquish samples from 3728 Ref # 2C on 6/8/05

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	B05-018-001	Page 4 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code: Air Quality	Data Turnaround: 7 day		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill		SAF No.: B05-018
Ice Chest No.: SRC 03 106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A050 238		Bill of Lading/Air Bill No.: SEE OSIPC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

SAMPLE ANALYSIS												
			Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C			
			Type of Container	aG	aG	aG	aG	aG	aG			
			No. of Container(s)	1	1	1	1	1	1			
			Volume	250mL	250mL	250mL	500mL	120mL	250mL			
				See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 [2,4-Dichlorophenoxyacetic acid]	Pesticides - 8081	PCBs - 8082			
Sample No.	Matrix *	Sample Date	Sample Time									
6 J03CJ8	SOIL	6-7-05	0931					X				#15
7 J03CJ9	SOIL	6-7-05	0730	X	X	X	X	X	X			Full suite

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Doug Bowers	6-7-05 1615	Received By/Stored In	Ref 2C 3728 6-7-05 1615
Relinquished By/Removed From	REF 2C 3728	6805 1030	Received By/Stored In	SJOALE 6805 1030
Relinquished By/Removed From	SJOALE ERG	6805 1030	Received By/Stored In	FED EX
Relinquished By/Removed From	FED EX	6-9-05 1000	Received By/Stored In	6-9-05 1000
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) ICP Metals - 6010A (SW-846) [Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc]; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6 8 105

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	B05-018-001	Page 2 of 4

Collector Doug Bowers	Company Contact Doug Bowers	Telephone No. 531-0701	Project Coordinator KESSNER, JH
Price Code Air Quality	Data Turnaround 7 day		
Project Designation Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location Horse Shoe Landfill		SAF No. B05-018
Ice Chest No. ERC 03 106	Field Logbook No. EL 1173-5	COA R602702000	Method of Shipment Fed Ex
Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A050238		Bill of Lading/Air Bill No. 5VT05PC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					

	Sample No.	Matrix *	Sample Date	Sample Time										
8	J03CH8	SOIL	6-7-05	0804					X				#5	
9	J03CH9	SOIL		0807					X				6	
10	J03CJ0	SOIL		0811					X				7	
11	J03CJ1	SOIL		0813					X				8	
12	J03CJ2	SOIL		0816					X				9	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From Doug Bowers Bowers	Date/Time 6-7-05/1615	Received By/Stored In Ref 2C 3728	Date/Time 6-7-05/1615
Relinquished By/Removed From REF 2C 3728 6805	Date/Time 1030	Received By/Stored In SJGARLE/Ade 6805	Date/Time 1030
Relinquished By/Removed From SJGARLE/Ade 6805 ERC	Date/Time 1030	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From FED EX 6-9-05	Date/Time 1000	Received By/Stored In 6-9-05	Date/Time 1000
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) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6/8/05

Matrix *

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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	B05-018-001	Page 1 of 4

Collector Doug Bowers	Company Contact Doug Bowers	Telephone No. 531-0701	Project Coordinator KESSNER, JH	Price Code / Data Turnaround
Project Designation Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location Horse Shoe Landfill		SAF No. B05-018	Air Quality 7 day
Ice Chest No. ERC 03106	Field Logbook No. EL 1173-5	COA R602702000	Method of Shipment Fed Ex	
Shipped To EBERLINE SERVICES/LIONVILLE	Offsite Property No. A050238		Bill of Lading/Air Bill No. 8E8 05 PC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C				
Type of Container	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	1	1	1	1	1				
Volume	250mL	250mL	250mL	500mL	120mL	250mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082				

	Sample No.	Matrix *	Sample Date	Sample Time										
13	J03CH3	SOIL	6-7-05	0741	X	X	X	X	X	X			stock	
14	J03CH4	SOIL		0752					X				#1	
15	J03CH5	SOIL		0755					X				2	
16	J03CH6	SOIL		0759					X				3	
17	J03CH7	SOIL		0801					X				4	

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Doug Bowers Bowers	6-7-05/1615	REF 2C 3728	6-7-05/1615
Relinquished By/Removed From	REF 2C 3728	6805 1030	SJGALES/Ach	6805 1030
Relinquished By/Removed From	SJGALES/Ach ERC	6805 1030	FED EX	
Relinquished By/Removed From	Fed Ex	6-9-05 1000	[illegible]	6-9-05 1000
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) (Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc); Mercury - 7471 - (CV)

Personnel not available to Relinquish samples from 3728 Ref # 2C on 6/8/05

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)

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU- HANFORD

Date: 6-9-05

Purchase Order / Project# / SAP# / SOW# / Release #: B05-018

LvLI Batch # : 05061713

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier	Fed Ex	Airbill# 7923 0223 1110	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 4.2 °C		Cooler # ERC-03-106	
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☑ Yes	☐ No	☐ N/A	
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No		
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies	

SR-002-B

LVLI LIONVILLE LABORATORY INC.

RECEIVED
AUG 2005

Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B05-018 H3206

DATE RECEIVED: 06/09/05 LVL LOT # :0506L713

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J03CJ9	007	S	05LVG182	06/07/05	N/A	06/13/05
J03CH3	013	S	05LVG182	06/07/05	N/A	06/13/05
J03CH3	013 MS	S	05LVG182	06/07/05	N/A	06/13/05
J03CH3	013 MSD	S	05LVG182	06/07/05	N/A	06/13/05

LAB QC:

VBLKVU	MB1	S	05LVG182	N/A	N/A	06/13/05
VBLKVU	MB1 BS	S	05LVG182	N/A	N/A	06/13/05

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD B05-018
LVL #: 0506L713
SDG/SAF # H3206/B05-018

W.O. #: 11343-606-001-9999-00
Date Received: 06-09-2005

GC/MS VOLATILE

Two (2) soil samples were collected on 06-07-2005.

The samples and their associated QC samples were analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8260B for TCL volatile target compounds on 06-13-2005.

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 required holding time.
3. Non-target compounds were not detected in the samples.
4. All surrogate recoveries were within acceptance criteria.
5. All matrix spike recoveries were within acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. The method blank contained the common laboratory contaminant Methylene Chloride at a level less than the CRQL.
8. Internal standard area and retention time criteria were met.
9. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").
10. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
11. "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

7/8/05
Date

som\group\data\voa\tnu-hanford\0506-713.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 4 pages.

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 acompound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.

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

D = Identifies all compounds identified in an analysis at a secondary dilution factor.

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).

Y = Additional qualifiers used as required are explained in the case narrative.

GLOSSARY

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 resolve 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 - **Co-elution/ Background:** Peak was manually integrated to eliminate contribution from co-eluting compounds, background signal, or other interference.

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

Lionville Laboratory, Inc.

Volatiles by GC/MS, HSL List

Report Date: 06/17/05 07:33

RFW Batch Number: **0506L713** Client: **TNUHANFORD B05-018 H3206** Work Order: 11343606001 Page: 1a

	Cust ID:	J03CJ9		J03CH3		J03CH3		J03CH3		VBLKVU		VBLKVU BS	
Sample Information	RFW#:	007		013		013 MS		013 MSD		05LVG182-MB1		05LVG182-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1.16		0.962		1.06		0.926		1.00		1.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate Recovery	Toluene-d8	104	%	105	%	97	%	96	%	97	%	95	%
	Bromofluorobenzene	102	%	106	%	97	%	94	%	94	%	98	%
	1,2-Dichloroethane-d4	109	%	112	%	111	%	111	%	99	%	102	%
			fl		fl		fl		fl		fl		fl
Chloromethane		12	U	10	U	11	U	9	U	10	U	10	U
Bromomethane		12	U	10	U	11	U	9	U	10	U	10	U
Vinyl Chloride		12	U	10	U	11	U	9	U	10	U	10	U
Chloroethane		12	U	10	U	11	U	9	U	10	U	10	U
Methylene Chloride		8	B	8	B	12	B	11	B	3	J	3	BJ
Acetone		12	U	10	U	11	U	9	U	10	U	10	U
Carbon Disulfide		6	U	5	U	6	U	5	U	5	U	5	U
1,1-Dichloroethene		6	U	5	U	112	%	111	%	5	U	101	%
1,1-Dichloroethane		6	U	5	U	6	U	5	U	5	U	5	U
1,2-Dichloroethene (total)		6	U	5	U	6	U	5	U	5	U	5	U
Chloroform		6	U	5	U	6	U	5	U	5	U	5	U
1,2-Dichloroethane		6	U	5	U	6	U	5	U	5	U	5	U
2-Butanone		12	U	10	U	11	U	9	U	10	U	10	U
1,1,1-Trichloroethane		6	U	5	U	6	U	5	U	5	U	5	U
Carbon Tetrachloride		6	U	5	U	6	U	5	U	5	U	5	U
Bromodichloromethane		6	U	5	U	6	U	5	U	5	U	5	U
1,2-Dichloropropane		6	U	5	U	6	U	5	U	5	U	5	U
cis-1,3-Dichloropropene		6	U	5	U	6	U	5	U	5	U	5	U
Trichloroethene		6	U	5	U	119	%	114	%	5	U	102	%
Dibromochloromethane		6	U	5	U	6	U	5	U	5	U	5	U
1,1,2-Trichloroethane		6	U	5	U	6	U	5	U	5	U	5	U
Benzene		6	U	5	U	109	%	105	%	5	U	98	%
Trans-1,3-Dichloropropene		6	U	5	U	6	U	5	U	5	U	5	U
Bromoform		6	U	5	U	6	U	5	U	5	U	5	U
4-Methyl-2-pentanone		12	U	10	U	11	U	9	U	10	U	10	U
2-Hexanone		12	U	10	U	11	U	9	U	10	U	10	U
Tetrachloroethene		6	U	5	U	6	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane		6	U	5	U	6	U	5	U	5	U	5	U
Toluene		6	U	5	U	119	%	117	%	5	U	104	%

*= Outside of EPA CLP QC limits.

RFW Batch Number: **0506L713** Client: **TNUHANFORD B05-018 H3206** Work Order: 11343606001 Page: 1b

Cust ID:	J03CJ9	J03CH3	J03CH3	J03CH3	VBLKVU	VBLKVU BS
RFW#:	007	013	013 MS	013 MSD	05LVG182-MB1	05LVG182-MB1
Chlorobenzene	6 U	5 U	117 %	114 %	5 U	101 %
Ethylbenzene	6 U	5 U	6 U	5 U	5 U	5 U
Styrene	6 U	5 U	6 U	5 U	5 U	5 U
Xylene (total)	6 U	5 U	6 U	5 U	5 U	5 U
cis-1,2-dichloroethene	6 U	5 U	6 U	5 U	5 U	5 U
trans-1,2-dichloroethene	6 U	5 U	6 U	5 U	5 U	5 U

*= Outside of EPA CLP QC limits.

REVISION

Lionville Laboratory Use Only: 0506L713

Custody Transfer Record/Lab Work Request

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

Client: TNU-HANFORD SAF# B05-018
Est. Final Proj. Sampling Date:
Project #: 11343-606-001-9999-00
Project Contact/Phone #:
Lionville Laboratory Project Manager: DJ
QC: SPEC Del: STD TAT: 7 Days
Date Rec'd: 6/9/05 Date Due: 6/16/05

		A	B	C		D	E		F							
Refrigerator #		1	6	6		6	6		6							
#/Type Container	Liquid															
	Solid	G	G	G		G	G		G							
Volume	Liquid															
	Solid	250	250	250		120	500		250							
Preservatives							—		—							
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	~~Pest~~/PCB	Herb	PCT	CHLORO HERB		Metal	CN						
		↓ Lionville Laboratory Use Only ↓														
		6624H	6625H	6PCB		6608H	6HBGX		METALS①							

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	6624H	6625H	6PCB		6608H	6HBGX		METALS①						
001	J03CT3			Soil	6-7-05	0819					1									
002	4					0822					1									
003	5					0824					1									
004	6					0827					1									
005	7					0836	1	1	1		1	1		1						
006	8					0833					1									
007	9					0730	1	1	1		1	1		1						
008	8					0809					1									
009	9					0807					1									
010	10					0811					1									

Special Instructions:

METALS① = RCRA TO + Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:
6/10/05 1. 007-A-C, EF added / cancelled for 015, per bottles received.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6/9/05	1000

Relinquished by	Received by	Date	Time

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

Lionville Laboratory Use Only

0506L713

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU-Hanford B05-018

Est. Final Proj. Sampling Date:

Project #:

Project Contact/Phone #: Allpg

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: Date Due:

		A	B	C		D	E		F						
Refrigerator #		1	6	6		6	6		6						
#/Type Container	Liquid														
	Solid	G	G	G		G	G		G						
Volume	Liquid														
	Solid	250	250	250		125	500		250						
Preservatives		—	—	—		—	—		—						
ANALYSES REQUESTED →		ORGANIC							INORG						
		VOA	BNA	~~Pest~~ PCB	Herb	Pest	Chlorp Herb		Metal	CN					
		Lionville Laboratory Use Only													
		0624H	0625H	OPCB		0608H	0408X		METALS(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	OPCB		0608H	0408X		METALS(1)						
011	J03CJ1			GW	0813	S					1									
012	2				0816						1									
013	H3				0741		1	1	1		1	1		1						
014	4				0752						1									
015	5				0755						1									
016	6				0759						1									
017	7				0801						1									

Special Instructions:

METALS(1) = MERCRATO + Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	8/1/15	1000

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

050L713

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B05-018-001	Page 3 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code: Air Quality	Data Turnaround: 7 day		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill		SAF No.: B05-018
Ice Chest No.: ERC03106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238		Bill of Lading/Air Bill No.: SOR 09PC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 [2,4-Dichlorophenoxyacetic acid]	Pesticides - 8081	PCBs - 8082					
Sample No.	Matrix *	Sample Date	Sample Time								
1 J03CJ3	SOIL	6-7-05	0919					X				#10
2 J03CJ4	SOIL		0822					X				11
3 J03CJ5	SOIL		0824					X				12
4 J03CJ6	SOIL		0827					X				13
5 J03CJ7	SOIL		0830					X				14

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Doug Bowers	6-7-05 1615	Ref 2C 3728	6-7-05 1615
Relinquished By/Removed From	REF 2C 3728	6805 1030	SJ OALE	6805 1030
Relinquished By/Removed From	SJ OALE	6805 1030	FED EX	
Relinquished By/Removed From	FEDEX	6-9-05 1000		6-9-05 1000
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to Relinquish samples from 3728 Ref #2C on 6/8/05

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	B05-018-001	Page 4 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code: Air Quality	Data Turnaround: 7 day		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill		SAF No.: B05-018
Ice Chest No.: SRC 03 106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A050 238		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					
Sample No.	Matrix *	Sample Date	Sample Time								
6 J03CJ8	SOIL	6-7-05	0931					X			#15
7 J03CJ9	SOIL	6-7-05	0730	X	X	X	X	X	X		Full suite

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Doug Bowers	6-7-05/1615	Received By/Stored In: Ref 2C 3728	6-7-05/1615
Relinquished By/Removed From: REF 2C 3728	6805 1030	Received By/Stored In: [illegible]	6805 1030
Relinquished By/Removed From: [illegible] ERG	6805 1030	Received By/Stored In: FED EX	
Relinquished By/Removed From: [illegible]	6-9-05 1000	Received By/Stored In: [illegible]	6-9-05 1000
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6 8 05

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	B05-018-001	Page 2 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code: Air Quality	Data Turnaround: 7 day		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill		SAF No.: B05-018
Ice Chest No.: ERC 03 106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238		Bill of Lading/Air Bill No.: 5425 05PC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C D	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					
Sample No.	Matrix *	Sample Date	Sample Time								
8 J03CH8	SOIL	6-7-05	0804					X				#5
9 J03CH9	SOIL	↓	0807					X				6
10 J03CJ0	SOIL		0811					X				7
11 J03CJ1	SOIL		0813					X				8
12 J03CJ2	SOIL	↓	0816					X				9

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By/Removed From: Doug Bowers Doug Bowers	Received By/Stored In: Ref 2C 3728	6-7-05/1615
Relinquished By/Removed From: REF 2C 3728	Received By/Stored In: SJGALEA	6805 1030
Relinquished By/Removed From: SJGALEA 6805 ERC	Received By/Stored In: FED EX	1030
Relinquished By/Removed From: FED EX 6-9-05	Received By/Stored In: 6-9-05	1000
Relinquished By/Removed From	Received By/Stored In	
Relinquished By/Removed From	Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6/8/05

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
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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	B05-018-001	Page 1 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers — Telephone No.: 531-0701	Project Coordinator: KESSNER, JH	Price Code / Data Turnaround
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill	SAF No.: B05-018	Air Quality — 7 day
Ice Chest No.: ERC 03106	Field Logbook No.: EL 1173-5 — COA: R602702000	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238	Bill of Lading/Air Bill No.: SEE OS PC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C				
Type of Container	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	1	1	1	1	1				
Volume	250mL	250mL	250mL	500mL	120mL	250mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082				
Sample No.	Matrix *	Sample Date	Sample Time							
13 J03CH3	SOIL	6-7-05	0741	X	X	X	X	X	X	stock #0
14 J03CH4	SOIL		0752					X		#1
15 J03CH5	SOIL		0755					X		2
16 J03CH6	SOIL		0759					X		3
17 J03CH7	SOIL		0801					X		4

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Doug Bowers	6-7-05/1615	RIF 2C 3728	6-7-05/1615
Relinquished By/Removed From	REF-2C 3728	6805 1030	SJGALES/Ach	6805 1030
Relinquished By/Removed From	SJGALES/Ach ERC	6805 1030	FED EX	
Relinquished By/Removed From	FedEx	6-9-05 1000		6-9-05 1000
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to Relinquish samples from 3728 Ref # 2C on 6/8/05

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)

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU- HANFORD

Date: 6-9-05

Purchase Order / Project# / SAP# / SOW# / Release #: B05-018

LvLI Batch # : 05061713

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier	Fed Ex	Airbill# 7923 0223 1110	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 4.2 °C		Cooler # ERC-03-106	
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☑ Yes	☐ No	☐ N/A	
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No		
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies	

SR-002-B

LVLI LIONVILLE LABORATORY INC.

RECEIVED AUG 2005

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B05-018 H3206

DATE RECEIVED: 06/09/05

LVL LOT # :0506L713

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J03CJ3	001	S	05LE0490	06/07/05	06/12/05	06/14/05
J03CJ4	002	S	05LE0490	06/07/05	06/12/05	06/14/05
J03CJ5	003	S	05LE0490	06/07/05	06/12/05	06/14/05
J03CJ6	004	S	05LE0490	06/07/05	06/12/05	06/14/05
J03CJ7	005	S	05LE0490	06/07/05	06/12/05	06/14/05
J03CJ8	006	S	05LE0490	06/07/05	06/12/05	06/14/05
J03CJ9	007	S	05LE0490	06/07/05	06/12/05	06/14/05
J03CH8	008	S	05LE0490	06/07/05	06/12/05	06/14/05
J03CH9	009	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CJ0	010	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CJ1	011	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CJ2	012	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CH3	013	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CH3	013 MS	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CH3	013 MSD	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CH4	014	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CH5	015	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CH6	016	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CH7	017	S	05LE0490	06/07/05	06/12/05	06/15/05

LAB QC:

PBLKMY	MB1	S	05LE0490	N/A	06/12/05	06/14/05
PBLKMY	MB1 BS	S	05LE0490	N/A	06/12/05	06/14/05

7/1/5

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD B05-018
LVL #: 0506L713
SDG/SAF # H3206/B05-018

W.O. #: 11343-606-001-9999-00
Date Received: 06-09-2005

CHLORINATED PESTICIDES

Seventeen (17) soil samples were collected on 06-07-2005.

The samples and their associated QC samples were extracted on 06-12-2005 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures on 06-14,15-2005. The extraction procedure was based on method 3540C 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. Samples were extracted and analyzed within required holding time.
3. Samples and their associated QC samples received a Copper-Sulfur cleanup according to Lionville Laboratory SOPs based on SW846 method 3660A.
4. The method blank was below the reporting limits for all target compounds.
5. All surrogate recoveries were within acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. One (1) of forty (40) matrix spike recoveries was outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
8. The initial calibrations associated with this data set were within acceptance criteria.
9. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
10. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
11. 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

7/8/05
Date

som\r:\group\data\pest\tnu hanford\0506-713.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 5 pages.

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 058C261

Initiator: M. McAnally
Date: 6/17/05
Client: TMV Hanford

Batch: 0506L713
Samples: -013 MSD
Method: SW846/MCAWW/CLP/

Parameter: 0608H
Matrix: Soil
Prep Batch: 0526490

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)

- MSD recovery for DDD was high @ 122% (range: 50-120).
- MS, MS were ok.
- no hits for DDD in sample -013

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:
Narrate

4. Project Manager Instructions...signature/date: 6/17/05
✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
__ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: _____
__ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ 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
__	X Initiator	__	__ Metals: Beegle
__	X Lab General Manager: M. Taylor	__	__ Inorganic: Perrone
✓	X Project Mgr: Stone/Johnson/Haslett	__	__ GC/LC: Kiger
__	X Technical Mgr: Wesson/Daniels	__	__ MS: Rychlak/Layman
__	X QA (file): Alberts	__	__ Log-in: Melnic
__	__ Data Management: Feldman	__	__ Admin: Soos
__	__ Sample Prep: Beegle/Kiger	__	__ Other: _____

QA-105-A-0801

GLOSSARY OF 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.
.I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

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.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
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.
NPM	=	No pattern match for multi-component target analytes.

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 06/17/05 13:40

RFW Batch Number: 0506L713 Client: TNUHANFORD B05-018 H3206 Work Order: 11343606001 Page: 1

	Cust ID:	J03CJ3		J03CJ4		J03CJ5		J03CJ6		J03CJ7		J03CJ8	
Sample Information	RFW#:	001		002		003		004		005		006	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	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:	Decachlorobiphenyl	94	%	81	%	85	%	89	%	86	%	99	%
	Tetrachloro-m-xylene	76	%	95	%	73	%	76	%	75	%	84	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
Beta-BHC		1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
Delta-BHC		1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
gamma-BHC (Lindane)		1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
Heptachlor		1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
Aldrin		1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
Heptachlor epoxide		1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
Endosulfan I		1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	8.2	
Dieldrin		1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
4,4'-DDE		64		150		140		220		540		640	
Endrin		3.3	U	3.3	U	3.4	U	3.3	U	3.3	U	3.3	U
Endosulfan II		3.3	U	3.3	U	3.4	U	3.3	U	3.3	U	3.3	U
4,4'-DDD		2.6	J	5.9		1.9	J	6.3		12		13	
Endosulfan sulfate		3.3	U	3.3	U	3.4	U	3.3	U	3.3	U	3.3	U
4,4'-DDT		25		70		23		110		170		210	
Methoxychlor		17	U	17	U	17	U	17	U	17	U	17	U
Endrin ketone		3.3	U	3.3	U	3.4	U	3.3	U	3.3	U	3.3	U
Endrin aldehyde		3.3	U	3.3	U	3.4	U	3.3	U	4.5		3.3	U
alpha-Chlordane		1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
gamma-Chlordane		1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
Toxaphene		170	U	170	U	170	U	170	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

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 06/17/05 13:40

RFW Batch Number: 0506L713 Client: TNUHANFORD B05-018 H3206 Work Order: 11343606001 Page: 2

	Cust ID:	J03CJ9	J03CH8	J03CH9	J03CJ0	J03CJ1	J03CJ2
Sample Information	RFW#:	007	008	009	010	011	012
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	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:	Decachlorobiphenyl	93 %	88 %	92 %	102 %	95 %	94 %
	Tetrachloro-m-xylene	68 %	70 %	71 %	83 %	78 %	78 %
		fl	fl	fl	fl	fl	fl
Alpha-BHC		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Beta-BHC		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Delta-BHC		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
gamma-BHC (Lindane)		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Heptachlor		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Aldrin		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Heptachlor epoxide		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Endosulfan I		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Dieldrin		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
4,4'-DDE		3.3 U	460	150	26	310	51
Endrin		3.3 U	3.4 U	3.3 U	3.3 U	3.4 U	3.4 U
Endosulfan II		3.3 U	3.4 U	3.3 U	3.3 U	3.4 U	3.4 U
4,4'-DDD		3.3 U	69	7.8	3.3 U	8.1	1.9 J
Endosulfan sulfate		3.3 U	3.4 U	3.3 U	3.3 U	3.4 U	3.4 U
4,4'-DDT		3.3 U	420	92	9.1	110	24
Methoxychlor		17 U	17 U	17 U	17 U	17 U	17 U
Endrin ketone		3.3 U	3.4 U	3.3 U	3.3 U	3.4 U	3.4 U
Endrin aldehyde		3.3 U	2.3 J	3.3 U	3.3 U	2.4 J	3.4 U
alpha-Chlordane		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
gamma-Chlordane		1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Toxaphene		170 U	170 U	170 U	170 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

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

RFW Batch Number: 0506L713 Client: TNUHANFORD B05-018 H3206 Work Order: 11343606001 Page: 3

Report Date: 06/17/05 13:40

	Cust ID:	J03CH3	J03CH3	J03CH3	J03CH4	J03CH5	J03CH6
Sample Information	RFW#:	013	013 MS	013 MSD	014	015	016
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	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:	Decachlorobiphenyl	101 %	91 %	101 %	94 %	92 %	93 %
	Tetrachloro-m-xylene	83 %	75 %	83 %	80 %	79 %	78 %
		fl	fl	fl	fl	fl	fl
Alpha-BHC		1.7 U	91 %	100 %	1.7 U	1.7 U	1.8 U
Beta-BHC		1.7 U	90 %	96 %	1.7 U	1.7 U	1.8 U
Delta-BHC		1.7 U	102 %	109 %	1.7 U	1.7 U	1.8 U
gamma-BHC (Lindane)		1.7 U	92 %	101 %	1.7 U	1.7 U	1.8 U
Heptachlor		1.7 U	93 %	101 %	1.7 U	1.7 U	1.8 U
Aldrin		1.7 U	93 %	103 %	1.7 U	1.7 U	1.8 U
Heptachlor epoxide		1.7 U	94 %	101 %	1.7 U	1.7 U	1.8 U
Endosulfan I		1.7 U	99 %	105 %	1.7 U	1.7 U	1.8 U
Dieldrin		1.7 U	102 %	109 %	1.7 U	1.7 U	1.8 U
4,4'-DDE		3.4 U	106 %	113 %	150	78	190
Endrin		3.4 U	105 %	111 %	3.4 U	3.3 U	3.5 U
Endosulfan II		3.4 U	98 %	105 %	3.4 U	3.3 U	3.5 U
4,4'-DDD		3.4 U	115 %	122 * %	7.4	2.7 J	9.5
Endosulfan sulfate		3.4 U	96 %	103 %	3.4 U	3.3 U	3.5 U
4,4'-DDT		3.4 U	82 %	90 %	82	27	140
Methoxychlor		17 U	158 %	159 %	17 U	17 U	18 U
Endrin ketone		3.4 U	97 %	103 %	3.4 U	3.3 U	3.5 U
Endrin aldehyde		3.4 U	94 %	99 %	3.4 U	3.3 U	3.5 U
alpha-Chlordane		1.7 U	95 %	102 %	1.7 U	1.7 U	1.8 U
gamma-Chlordane		1.7 U	95 %	102 %	1.7 U	1.7 U	1.8 U
Toxaphene		170 U	170 U	170 U	170 U	170 U	180 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: 06/17/05 13:40

RFW Batch Number: **0506L713** Client: **TNUHANFORD B05-018 H3206** Work Order: 11343606001 Page: 4

	Cust ID:	J03CH7		PBLKMY		PBLKMY BS	
Sample Information	RFW#:	017		05LE0490-MB1		05LE0490-MB1	
	Matrix:	SOIL		SOIL		SOIL	
	D.F.:	1.00		1.00		1.00	
	Units:	UG/KG		UG/KG		UG/KG	
Surrogate:	Decachlorobiphenyl	93	%	85	%	89	%
	Tetrachloro-m-xylene	76	%	76	%	77	%
Alpha-BHC		1.8	U	1.7	U	93	%
Beta-BHC		1.8	U	1.7	U	88	%
Delta-BHC		1.8	U	1.7	U	100	%
gamma-BHC (Lindane)		1.8	U	1.7	U	93	%
Heptachlor		1.8	U	1.7	U	92	%
Aldrin		1.8	U	1.7	U	95	%
Heptachlor epoxide		1.8	U	1.7	U	96	%
Endosulfan I		36		1.7	U	96	%
Dieldrin		1.8	U	1.7	U	99	%
4,4'-DDE		1300		3.3	U	107	%
Endrin		3.5	U	3.3	U	100	%
Endosulfan II		3.5	U	3.3	U	96	%
4,4'-DDD		150		3.3	U	108	%
Endosulfan sulfate		3.5	U	3.3	U	95	%
4,4'-DDT		1700		3.3	U	100	%
Methoxychlor		18	U	17	U	133	%
Endrin ketone		3.5	U	3.3	U	94	%
Endrin aldehyde		3.5	U	3.3	U	90	%
alpha-Chlordane		1.8	U	1.7	U	95	%
gamma-Chlordane		1.8	U	1.7	U	96	%
Toxaphene		180	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

Lionville Laboratory Use Only: 0506L7K3

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

Client: TNU-HANFORD SAFH B05-018
Est. Final Proj. Sampling Date:
Project #: 11343-606-001-9999-80
Project Contact/Phone #:
Lionville Laboratory Project Manager: DJ
QC: Spec Del: Std TAT: 7 Days
Date Rec'd: 6/9/05 Date Due: 6/16/05

	A	B	C		D	E		F						
Refrigerator #	1	6	6		6	6		6						
#/Type Container (Liquid/Solid)	G	G	G		G	G		G						
Volume (Liquid/Solid)	250	250	250		120	500		250						
Preservatives	—					—		—						
ANALYSES REQUESTED	ORGANIC							INORG						
	VOA	BNA	Pest/PCB	Herb	GST	CHCOLO HEXR		Metal	CN					
Lionville Laboratory Use Only	0624H	0625H	OPCB		0608H	OHBGX		METALS(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	OPCB		0608H	OHBGX		METALS(1)						
001	J03 CHT 3			Soil	6-7-05	0811					1									
002	4					0820					1									
003	5					0824					1									
004	6					0827					1									
005	7					0831	1	1	1		1	1		1						
006	8					0833					1									
007	9					0730					1									
008	H 8					0804					1									
009	19					0807					1									
010	10					0811					1									

Special Instructions:

METALS(1) = RCRA TO + Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:
1. 0608H V
2. OPCB R
3. OHBGXK
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6/9/05	1000

Relinquished by	Received by	Date	Time

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

Lionville Laboratory Use Only

0506L713

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU-HANFORD B05-018

Est. Final Proj. Sampling Date:

Project #:

Project Contact/Phone #: Aulp

Lionville Laboratory Project Manager:

QC: Del: TAT

Date Rec'd: Date Due:

	A	B	C	D	E	F
Refrigerator #	1	6	6	6	6	6
#/Type Container (Liquid / Solid)	G	G	G	G	G	G
Volume (Liquid / Solid)	250	250	250	125	500	250
Preservatives	—	—	—	—	—	—
ANALYSES REQUESTED	ORGANIC: VOA	ORGANIC: BNA	ORGANIC: ~~Pest~~ PCB	ORGANIC: Herb	ORGANIC: Pest	ORGANIC: CHLORO HERB
	INORG: Metal	INORG: CN				

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624H	0625H	OPCB		0608H	0480X		METALS(1)					
011	TOBCT 1			L-70	0813	S					1								
012	2				0816						1								
013	H3				0741		1	1	1		1	1		1					
014	4				0752						1								
015	5				0755						1								
016	6				0759						1								
017	7				0801						1								

Special Instructions:

METALS(1) = MERCRATO + Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	8/15	1000

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

U3U6L 1N

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B05-018-001	Page 3 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill		SAF No.: B05-018
Air Quality	7 day		
Ice Chest No.: ERC03106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238		Bill of Lading/Air Bill No.: S05E03PC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					

	Sample No.	Matrix *	Sample Date	Sample Time										
1	J03CJ3	SOIL	6-7-05	0819					X				#10	
2	J03CJ4	SOIL		0822					X				11	
3	J03CJ5	SOIL		0824					X				12	
4	J03CJ6	SOIL		0827					X				13	
5	J03CJ7	SOIL		0830					X				14	

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From: Doug Bowers	Doug Bowers	6-7-05	Rot ZC 3728	6-7-05 1615
Relinquished By/Removed From: REF ZC 3728		6805 1030	Received By/Stored In: SJ Oakes	6805 1030
Relinquished By/Removed From: SJ Oakes		6805 1030	Received By/Stored In: FED EX	
Relinquished By/Removed From: FED EX		6-9-05 1000	Received By/Stored In:	6-9-05 1000
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) ICP Metals - 6010A (SW-846) [Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc]; Mercury - 7471 - (CV)

Personnel not available to Relinquish samples from 3728 Ref # ZC on 6/8/05

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solid
DL=Drum Liquid
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	B05-018-001	Page 4 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers — Telephone No.: 531-0701	Project Coordinator: KESSNER, JH	Price Code: Air Quality — Data Turnaround: 7 day
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill	SAF No.: B05-018	
Ice Chest No.: GRC 03 106	Field Logbook No.: EL 1173-5 — COA: R602702000	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A050 238	Bill of Lading/Air Bill No.: 5ET05PC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 [2,4-Dichlorophenoxyacetic acid]	Pesticides - 8081	PCBs - 8082					
Sample No.	Matrix *	Sample Date	Sample Time								
6 J03CJ8	SOIL	6-7-05	0933					X			#15
7 J03CJ9	SOIL	6-7-05	0730	X	X	X	X	X	X		Full suite

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Doug Bowers Bowers	6-7-05 1615	Received By/Stored In: Ref 2C 3728	6-7-05 1615
Relinquished By/Removed From: REF 2C 3728	6805 1030	Received By/Stored In: [illegible]	6805 1030
Relinquished By/Removed From: [illegible] GRC	6805 1030	Received By/Stored In: FED EX	
Relinquished By/Removed From: FED EX	6-9-05 1000	Received By/Stored In: [illegible]	6-9-05 1000
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) [Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc]; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6 8 105

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		B05-018-001	Page 2 of 4
Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH	Price Code / Data Turnaround
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill		SAF No.: B05-018	Air Quality: 7 day
Ice Chest No.: ERC 03 106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238		Bill of Lading/Air Bill No.: 5675 05PC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C D	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					

	Sample No.	Matrix *	Sample Date	Sample Time										
8	J03CH8	SOIL	6-7-05	0804					X				#5	
9	J03CH9	SOIL	↓	0807					X				6	
10	J03CJ0	SOIL		0811					X				7	
11	J03CJ1	SOIL		0813					X				8	
12	J03CJ2	SOIL	↓	0816					X				9	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Doug Bowers	Date/Time: Doug Bowers 6-7-05/1615	Received By/Stored In: Ref 2C 3728	Date/Time: 6-7-05/1615
Relinquished By/Removed From: REF 2C 3728	Date/Time: 6805 1030	Received By/Stored In: [illegible]	Date/Time: 6805 1030
Relinquished By/Removed From: [illegible]	Date/Time: 6805 ERC 1030	Received By/Stored In: FED EX	Date/Time:
Relinquished By/Removed From: FED EX	Date/Time: 6-9-05 1000	Received By/Stored In: [illegible]	Date/Time: 6-9-05 1000
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) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6/8/05

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquid
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	B05-018-001	Page 1 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code: Air Quality	Data Turnaround: 7 day		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill		SAF No.: B05-018
Ice Chest No.: ERC 03106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238		Bill of Lading/Air Bill No.: 8E8 05PC

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C				
Type of Container	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	1	1	1	1	1				
Volume	250mL	250mL	250mL	500mL	120mL	250mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions.	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082				

	Sample No.	Matrix *	Sample Date	Sample Time										
13	J03CH3	SOIL	6-7-05	0741	X	X	X	X	X	X			stockpile	
14	J03CH4	SOIL		0752					X				#1	
15	J03CH5	SOIL		0755					X				2	
16	J03CH6	SOIL		0759					X				3	
17	J03CH7	SOIL		0801					X				4	

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Doug Bowers	6-7-05/1615	Ref 2C 3728	6-7-05/1615
Relinquished By/Removed From	REF 2C 3728	6805 1030	SGALES/Ach	6805 1030
Relinquished By/Removed From	SGALES/Ach ERC	6805 1030	FED EX	
Relinquished By/Removed From	FedEx	6-9-05 1000		6-9-05 1000
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) (Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc); Mercury - 7471 - (CV)

Personnel not available to Relinquish samples from 3728 Ref # 2C on 6/8/05

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)

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU- HANFORD

Date: 6-9-05

Purchase Order / Project# / SAP# / SOW# / Release #: B05-018

LvLI Batch # : 05061713

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier	Fed Ex	Airbill# 7923 0223 1110	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 4.2 °C		Cooler # ERC-03-106	
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☑ Yes	☐ No	☐ N/A	
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No		
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies	

SR-002-B

LvLI LIONVILLE LABORATORY INC.

RECEIVED
AUG 2005

Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B05-018 H3206

DATE RECEIVED: 06/09/05

LVL LOT # :0506L713

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J03CJ9	007	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CH3	013	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CH3	013 MS	S	05LE0490	06/07/05	06/12/05	06/15/05
J03CH3	013 MSD	S	05LE0490	06/07/05	06/12/05	06/15/05

LAB QC:

PBLKMY	MB1	S	05LE0490	N/A	06/12/05	06/15/05
PBLKMY	MB1 BS	S	05LE0490	N/A	06/12/05	06/15/05

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD B05-018
LVL #: 0506L713
SDG/SAF # H3206/B05-018

W.O. #: 11343-606-001-9999-00
Date Received: 06-09-2005

PCB

Two (2) soil samples were collected on 06-07-2005.

The samples and their associated QC samples were extracted on 06-12-2005 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures on 06-15-2005. The extraction procedure was based on method 3540C 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. Samples were extracted and analyzed within required holding time.
3. The samples and their associated QC samples received Silica Gel, Copper-Sulfur and Sulfuric Acid cleanups according to Lionville Laboratory SOPs based on SW846 methods 3630C, 3660A and 3665A respectively.
4. The method blank was below the reporting limits for all target compounds.
5. All surrogate recoveries were within acceptance criteria.
6. The blank spike recoveries were within acceptance criteria.
7. All matrix spike recoveries were within acceptance criteria.
8. The initial calibrations associated with this data set were within acceptance criteria.
9. The 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.
11. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

7/8/05
Date

som\r:\group\data\pest\tnu hanford\0506-713.pcb

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 • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

GLOSSARY OF 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.
.I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

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.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
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.
NPM	=	No pattern match for multi-component target analytes.

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 06/15/05 10:45

RFW Batch Number: **0506L713** Client: **TNU-HANFORD B05-018** Work Order: 11343606001 Page: 1

	Cust ID:	J03CJ9	J03CH3	J03CH3	J03CH3	PBLKMY	PBLKMY BS
Sample Information	RFW#:	007	013	013 MS	013 MSD	05LE0490-MB1	05LE0490-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	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	81 %	102 %	92 %	98 %	90 %	90 %
	Decachlorobiphenyl	115 %	117 %	112 %	120 %	108 %	111 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		13 U	14 U	112 %	125 %	13 U	110 %
Aroclor-1221		13 U	14 U	14 U	14 U	13 U	13 U
Aroclor-1232		13 U	14 U	14 U	14 U	13 U	13 U
Aroclor-1242		13 U	14 U	14 U	14 U	13 U	13 U
Aroclor-1248		13 U	14 U	14 U	14 U	13 U	13 U
Aroclor-1254		13 U	14 U	14 U	14 U	13 U	13 U
Aroclor-1260		13 U	14 U	119 %	132 %	13 U	118 %

6/15/05

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 Use Only

0506L7K3

Custody Transfer Record/Lab Work Request

Page 1 of 2

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

Client: TNU-HANFORD SAF# B05-018

Est. Final Proj. Sampling Date:

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

Project Contact/Phone #:

Lionville Laboratory Project Manager: DJ

QC: Spec Del: Std TAT: 7Day

Date Rec'd: 6/9/05 Date Due: 6/16/05

		A	B	C		D	E		F						
Refrigerator #		1	6	6		6	6		6						
#/Type Container	Liquid / Solid	G	G	G		G	G		G						
Volume	Liquid / Solid	250	250	250		120	500		250						
Preservatives							—		—						
ANALYSES REQUESTED →		ORGANIC							INORG						
		VOA	BNA	~~Pest~~ PCB	Herb	PCB GT	Chlord Herb		Metal	CN					
		Lionville Laboratory Use Only													
		0624H	0625H	OPCB		0608H	OHBGX		METALS(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	OPCB		0608H	OHBGX		METALS(1)						
001	J03CJ3			Sol	6-7-05	0814					1									
002	4					0822					1									
003	5					0824					1									
004	6					0827					1									
005	7					0831	1	1	1	6X	1	1		1						
006	8					0833					1									
007	9					0730					1									
008	H8					0804					1									
009	9					0807					1									
010	J0					0811					1									

Special Instructions:

METALS(1) = RCRA TO + Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:

1. 0608H V
2. OPCB R
3. OHBGXK
4.
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	6/9/05	1000

Relinquished by	Received by	Date	Time

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

Lionville Laboratory Use Only

0506L713

Custody Transfer Record/Lab Work Request

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU-HANKAL B05-018

Est. Final Proj. Sampling Date:

Project #:

Project Contact/Phone #: Aupg

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: Date Due:

		A	B	C		D	E		F						
Refrigerator #		1	6	6		6	6		6						
#/Type Container	Liquid														
	Solid	G	G	G		G	G		G						
Volume	Liquid														
	Solid	250	250	250		120	500		250						
Preservatives		—	—	—		—	—		—						
ANALYSES REQUESTED →	ORGANIC: VOA								INORG: Metal						
	ORGANIC: BNA								INORG: CN						
	~~Pest~~ PCB					Pest	CHLORO								
	Herb						HERB								

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	0624H	0625H	OPCB		0608H	0486X		METALS(2)						
011	T03CT1			6-70	0813	S					1									
012	2				0816						1									
013	H3				0741		1	1	1		1	1		1						
014	4				0752						1									
015	5				0755						1									
016	6				0759						1									
017	7				0801						1									

Special Instructions:

METALS(2) = MRCRATO+Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	8/15	1000

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

U3UUL 7N

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B05-018-001	Page 3 of 4

Collector Doug Bowers	Company Contact Doug Bowers	Telephone No. 531-0701	Project Coordinator KESSNER, JH
Price Code	Data Turnaround		
Air Quality	7 day		
Project Designation Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location Horse Shoe Landfill		SAF No. B05-018
Ice Chest No. ERC03106	Field Logbook No. EL 1173-5	COA R602702000	Method of Shipment Fed Ex
Shipped To EBERLINE SERVICES/ LIONVILLE	Offsite Property No. A050238		Bill of Lading/Air Bill No. 5 OF 03PC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					

	Sample No.	Matrix *	Sample Date	Sample Time										
1	J03CJ3	SOIL	6-7-05	0919					X				#10	
2	J03CJ4	SOIL		0822					X				11	
3	J03CJ5	SOIL		0824					X				12	
4	J03CJ6	SOIL		0827					X				13	
5	J03CJ7	SOIL		0830					X				14	

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix *
Relinquished By/Removed From Doug Doug Bowers Date/Time Bowers 6-7-05/1615	Received By/Stored In Date/Time Ref 2C 3728 6-7-05/1615	(1) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)	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
Relinquished By/Removed From REF 2C 3728 Date/Time 6805 1030	Received By/Stored In SJ OALE Date/Time 6805 1030		
Relinquished By/Removed From SJ OALE Date/Time 6805 1030	Received By/Stored In FED EX Date/Time		
Relinquished By/Removed From FEDEX Date/Time 6-9-05 1000	Received By/Stored In Date/Time 6-9-05 1000	Personnel not available to Relinquish samples from 3728 Ref # 2C on 6/8/05	
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	B05-018-001	Page 4 of 4

Collector Doug Bowers	Company Contact Doug Bowers	Telephone No. 531-0701	Project Coordinator KESSNER, JH	Price Code Air Quality	Data Turnaround 7 day
Project Designation Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location Horse Shoe Landfill		SAF No. B05-018		
Ice Chest No. SRC 03 106	Field Logbook No. EL 1173-5	COA R602702000	Method of Shipment Fed Ex		
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A050 238		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C				
Type of Container	aG	aG	aG	aG	aG	aG				
No. of Container(s)	1	1	1	1	1	1				
Volume	250mL	250mL	250mL	500mL	120mL	250mL				
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082				

	Sample No.	Matrix *	Sample Date	Sample Time										
6	J03CJ8	SOIL	6-7-05	0933					X				#15	
7	J03CJ9	SOIL	6-7-05	0730	X	X	X	X	X	X			Full suite	

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Doug Bowers	6-7-05 1615	Received By/Stored In: Ref 2C 3728	6-7-05 1615
Relinquished By/Removed From: REF 2C 3728	6805 1030	Received By/Stored In: [illegible]	6805 1030
Relinquished By/Removed From: [illegible] CRC	6805 1030	Received By/Stored In: FED EX	
Relinquished By/Removed From: FedEx	6-9-05 1000	Received By/Stored In: [illegible]	6-9-05 1000
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) (Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc); Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6/8/05

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	B05-018-001	Page 2 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers; Telephone No.: 531-0701	Project Coordinator: KESSNER, JH	Price Code: Air Quality; Data Turnaround: 7 day
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill	SAF No.: B05-018	
Ice Chest No.: ERC 03 106	Field Logbook No.: EL 1173-5; COA: R602702000	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238	Bill of Lading/Air Bill No.: 5687 05PC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C D	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					

	Sample No.	Matrix *	Sample Date	Sample Time										
8	J03CH8	SOIL	6-7-05	0804					X				#5	
9	J03CH9	SOIL	↓	0807					X				6	
10	J03CJ0	SOIL		0811					X				7	
11	J03CJ1	SOIL		0813					X				8	
12	J03CJ2	SOIL	↓	0816					X				9	

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From: Doug Bowers	Doug Bowers	6-7-05 1615	Received By/Stored In: REF 2C 3728	6-7-05 1615
Relinquished By/Removed From: REF 2C 3728		6805 1030	Received By/Stored In: SJGALE/Ach	6805 1030
Relinquished By/Removed From: SJGALE/Ach		6805 ERC 1030	Received By/Stored In: FED EX	
Relinquished By/Removed From: FED EX		6-9-05 1000	Received By/Stored In:	6-9-05 1000
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) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6/8/05

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		B05-018-001	Page 1 of 4
Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH	Price Code / Data Turnaround
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill		SAF No.: B05-018	Air Quality 7 day
Ice Chest No.: ERC 03106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex	
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238		Bill of Lading/Air Bill No.: 3EE 05 PC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					
Sample No.	Matrix *	Sample Date	Sample Time								
13 J03CH3	SOIL	6-7-05	0741	X	X	X	X	X	X		stockpile
14 J03CH4	SOIL		0752					X			#1
15 J03CH5	SOIL		0755					X			2
16 J03CH6	SOIL		0759					X			3
17 J03CH7	SOIL		0801					X			4

CHAIN OF POSSESSION	Sign/Print Names	Received By/Stored In	Date/Time
Relinquished By/Removed From: Doug Bowers	Doug Bowers 6-7-05	Ref 2C 3728	6-7-05 1615
Relinquished By/Removed From: REF 2C 3728	6805 1030	SJGALES/Pch	6805 1030
Relinquished By/Removed From: SJGALES/Pch ERC	6805 1030	FED EX	
Relinquished By/Removed From: Fed Ex	6-9-05 1000	[illegible]	6-9-05 1000
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to Relinquish samples from 3728 Ref# 2C on 6/8/05

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
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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 (SRC)

CLIENT: TNU- HANFORD

Date: 6-9-05

Purchase Order / Project# / SAP# / SOW# / Release #: B05-018

LvLI Batch # : 0506L713

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier Fed Ex	Airbill# 7923 0223 1110	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No	
5.	Samples received cooled or ambient?	Temp 4.2 °C		Cooler # ERC-03-106
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7.	coc signed and dated?	☑ Yes	☐ No	
8.	Sample containers are intact?	☑ Yes	☐ No	
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No	
10.	All sample label information matches coc?	☑ Yes	☐ No	
11.	Samples properly preserved?	☑ Yes	☐ No	
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No	
13.	VOA, TOC, TOX free of headspace?	☑ Yes	☐ No	☐ N/A
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No	
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies

SR-002-B

LvLI LIONVILLE LABORATORY INC.

RECEIVED
AUG 2005

Lionville Laboratory, Inc.
HBGX ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B05-018 H3206

DATE RECEIVED: 06/09/05

LVL LOT # :0506L713

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J03CJ9	007	S	05LE0499	06/07/05	06/14/05	06/17/05
J03CH3	013	S	05LE0499	06/07/05	06/14/05	06/17/05
J03CH3	013 MS	S	05LE0499	06/07/05	06/14/05	06/17/05
J03CH3	013 MSD	S	05LE0499	06/07/05	06/14/05	06/17/05
LAB QC:						
PBLKNA	MB1	S	05LE0499	N/A	06/14/05	06/17/05
PBLKNA	MB1 BS	S	05LE0499	N/A	06/14/05	06/17/05

7/1/15

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD B05-018
LVL #: 0506L713
SDG/SAF # H3206/B05-018

W.O. #: 11343-606-001-9999-00
Date Received: 06-09-2005

HERBICIDE

Two (2) soil samples were collected on 06-07-2005.

The samples and their associated QC samples were extracted on 06-14-2005 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures on 06-17-2005. The extraction and analysis procedures were based on method 8151A.

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. The method blank was below the reporting limits for all target compounds.

4. All surrogate recoveries were within acceptance criteria.

5. All blank spike recoveries were within acceptance criteria.

6. All matrix spike recoveries were within acceptance criteria.

7. The initial calibrations associated with this data set were within acceptance criteria.

8. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

9. 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

7/8/05
Date

som\r:\group\data\herb\tnu\0506-713 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 1 pages.

GLOSSARY OF 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.
.I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

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.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
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.
NPM	=	No pattern match for multi-component target analytes.

Lionville Laboratory, Inc.

Herbicides, Special List

Report Date: 06/17/05 12:39

RFW Batch Number: 0506L713 Client: TNUHANFORD B05-018 H3206 Work Order: 11343606001 Page: 1

	Cust ID:	J03CJ9	J03CH3	J03CH3	J03CH3	PBLKNA	PBLKNA BS
Sample Information	RFW#:	007	013	013 MS	013 MSD	05LE0499-MB1	05LE0499-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	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:	DCAA	110 %	41 %	48 %	48 %	130 %	119 %
		fl	fl	fl	fl	fl	fl
Dalapon		170 U	170 U	45 %	44 %	170 U	103 %
Dicamba		67 U	68 U	39 %	39 %	67 U	115 %
Dichloroprop		170 U	170 U	55 %	49 %	170 U	119 %
2,4-D		33 U	34 U	33 %	32 %	33 U	117 %
2,4,5-TP (Silvex)		17 U	17 U	60 %	64 %	17 U	127 %
2,4,5-T		17 U	17 U	34 %	34 %	17 U	127 %
2,4-DB		170 U	170 U	45 %	50 %	170 U	136 %
Dinoseb		17 U	17 U	89 %	79 %	17 U	134 %

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 Use Only: 0506L7K3

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

Client: TNU-HANFORD SAF# B05-018

Est. Final Proj. Sampling Date:

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

Project Contact/Phone #:

Lionville Laboratory Project Manager: DJ

QC: Spec Del: Std TAT: 7 Days

Date Rec'd: 6/9/05 Date Due: 6/16/05

		A	B	C		D	E		F						
Refrigerator #		1	6	6		6	6		6						
#/Type Container	Liquid														
	Solid	G	G	G		G	G		G						
Volume	Liquid														
	Solid	250	250	250		120	500		250						
Preservatives							—		—						
ANALYSES REQUESTED →		ORGANIC					CHEM		INORG						
		VOA	BNA	~~Pest~~ PCB	Herb	CST	HERB		Metal	CN					
Lionville Laboratory Use Only		0624H	0625H	OPCB		0608H	OHBGX		METALS①						

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	OPCB		0608H	OHBGX		METALS①						
001	J03CT3			Sol	6-7-05	0819					1									
002	4					0822					1									
003	5					0824					1									
004	6					0827					1									
005	7					0831	1	1	1		1	1		1						
006	8					0833					1									
007	9					0730					1									
008	H8					0804					1									
009	9					0807					1									
010	J0					0811					1									

Special Instructions:

METALS① = RCRA TO + Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:

1. 0608H V
2. OPCB R
3. OHBGX K
4.
5.
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6/9/05	1000

Relinquished by	Received by	Date	Time

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

Lionville Laboratory Use Only

0506L713

Custody Transfer Record/Lab Work Request

LVL

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU-HANford B05-018

Est. Final Proj. Sampling Date:

Project #:

Project Contact/Phone #: Allpg

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: Date Due:

		A	B	C		D	E		F						
Refrigerator #		1	6	6		6	6		6						
#/Type Container	Liquid / Solid	G	G	G		G	G		G						
Volume	Liquid / Solid	250	250	250		120	500		250						
Preservatives		—	—	—		—	—		—						
ANALYSES REQUESTED →		ORGANIC							INORG						
		VOA	BNA	~~Pest~~ PCB	Herb	Pest	CHLORO HERB		Metal	CN					
		Lionville Laboratory Use Only													
		0624H	0625H	OPCB		0608H	04BOX		METALS(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	OPCB		0608H	04BOX		METALS(1)
011	T03CT 1			6-70	0813	S					1			
012	2				0816						1			
013	H3				0741		1	1	1		1	1		1
014	4				0752						1			
015	5				0755						1			
016	6				0759						1			
017	7				0801						1			

Special Instructions:

METALS(1) = MERCRATO+Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
EWEP	[illegible]	8/15	1000

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

050GL713

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B05-018-001	Page 3 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code: Air Quality	Data Turnaround: 7 day		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill	SAF No.: B05-018	
Ice Chest No.: ERC03106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238	Bill of Lading/Air Bill No.: 5 OF 5 OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C D	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					

	Sample No.	Matrix *	Sample Date	Sample Time										
1	J03CJ3	SOIL	6-7-05	0919					X				#10	
2	J03CJ4	SOIL		0822					X				11	
3	J03CJ5	SOIL		0824					X				12	
4	J03CJ6	SOIL		0827					X				13	
5	J03CJ7	SOIL		0830					X				14	

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Doug Bowers Bowers	6-7-05/1615	Ref ZC 3728	6-7-05/1615
Relinquished By/Removed From	REF ZC 3728	6805 1030	SJ OALE	6805 1030
Relinquished By/Removed From	SJ OALE	6805 1030 EDC	FED EX	
Relinquished By/Removed From	FedEx	6-9-05 1000		6-9-05 1000
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to Relinquish samples from 3728 Ref# ZC on 6/8/05

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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	B05-018-001	Page 4 of 4

Collector Doug Bowers	Company Contact Doug Bowers	Telephone No. 531-0701	Project Coordinator KESSNER, JH
Price Code Air Quality	Data Turnaround 7 day		
Project Designation Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location Horse Shoe Landfill		SAF No. B05-018
Ice Chest No. SRC 03 106	Field Logbook No. EL 1173-5	COA R602702000	Method of Shipment Fed Ex
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A050 238		Bill of Lading/Air Bill No. SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 [2,4-Dichlorophenoxyacetic acid]	Pesticides - 8081	PCBs - 8082					

	Sample No.	Matrix *	Sample Date	Sample Time										
6	J03CJ8	SOIL	6-7-05	0933					X				#15	
7	J03CJ9	SOIL	6-7-05	0730	X	X	X	X	X	X			Full suite	

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From Doug Bowers	6-7-05 1615	Received By/Stored In Ref 2C 3728	6-7-05 1615
Relinquished By/Removed From REF 2C 3728	6805 1030	Received By/Stored In SGALE	6805 1030
Relinquished By/Removed From SGALE ERG	6805 1030	Received By/Stored In FED EX	
Relinquished By/Removed From Fed Ex	6-9-05 1000	Received By/Stored In [illegible]	6-9-05 1000
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) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6 8 105

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	B05-018-001	Page 2 of 4

Collector Doug Bowers	Company Contact Doug Bowers	Telephone No. 531-0701	Project Coordinator KESSNER, JH
Project Designation Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location Horse Shoe Landfill		SAF No. B05-018
Ice Chest No. ERC 03 106	Field Logbook No. EL 1173-5	COA R602702000	Method of Shipment Fed Ex
Shipped To EBERLINE SERVICES, LIONVILLE	Offsite Property No. A050238		Bill of Lading/Air Bill No. 5VB05PC

Price Code: Air Quality

Data Turnaround: 7 day

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C D	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					

	Sample No.	Matrix *	Sample Date	Sample Time										
8	J03CH8	SOIL	6-7-05	0804					X				#5	
9	J03CH9	SOIL	↓	0807					X				6	
10	J03CJ0	SOIL		0811					X				7	
11	J03CJ1	SOIL		0813					X				8	
12	J03CJ2	SOIL	↓	0816					X				9	

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From Doug Bowers Doug Bowers	Date/Time 6-7-05/1615	Received By/Stored In Ref 2C 3728	Date/Time 6-7-05/1615
Relinquished By/Removed From REF 2C 3728 6805	Date/Time 1030	Received By/Stored In SJGALES/Ach 6805	Date/Time 1030
Relinquished By/Removed From SJGALES/Ach 6805 ERC	Date/Time 1030	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From FED EX 6-9-05	Date/Time 1000	Received By/Stored In 6-9-05	Date/Time 1000
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) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6/8/05

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	B05-018-001	Page 1 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill	SAF No.: B05-018	Air Quality: 7 day
Ice Chest No.: ERC 03106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					
Sample No.	Matrix *	Sample Date	Sample Time								
13 J03CH3	SOIL	6-7-05	0741	X	X	X	X	X	X		stockpile
14 J03CH4	SOIL		0752					X			#1
15 J03CH5	SOIL		0755					X			2
16 J03CH6	SOIL		0759					X			3
17 J03CH7	SOIL		0801					X			4

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS
Relinquished By/Removed From: Doug Bowers Date/Time: Doug Bowers 6-7-05/1615	Received By/Stored In: REF 2C 3728 Date/Time: 6-7-05/1615	(1) ICP Metals - 6010A (SW-846) (Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc); Mercury - 7471 - (CV)
Relinquished By/Removed From: REF 2C 3728 Date/Time: 6805 1030	Received By/Stored In: SJGALES/Dch Date/Time: 6805 1030	
Relinquished By/Removed From: SJGALES/Dch ERC Date/Time: 6805 1030	Received By/Stored In: FED EX Date/Time:	
Relinquished By/Removed From: FedEx Date/Time: 6-9-05 1000	Received By/Stored In: [signature] Date/Time: 6-9-05 1000	
Relinquished By/Removed From: Date/Time:	Received By/Stored In: Date/Time:	Personnel not available to Relinquish samples from 3728 Ref # 2C on 6/8/05
Relinquished By/Removed From: Date/Time:	Received By/Stored In: Date/Time:	

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)

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU- HANFORD **Date:** 6-9-05

Purchase Order / Project# / SAF# / SOW# / Release #: B05-018

LvLI Batch # : 05061713 **Sample Custodian:** [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier	Fed Ex	Airbill# 7923 0223 1110	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 4.2 °C		Cooler # ERC-03-106	
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☑ Yes	☐ No	☐ N/A	
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No		
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies	

SR-002-B

LvLI LIONVILLE LABORATORY INC.

RECEIVED AUG 2005

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B05-018 H3206

DATE RECEIVED: 06/09/05 LVL LOT # :0506L713

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J03CJ9						
SILVER, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
ARSENIC, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
BORON, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
BARIUM, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
BERYLLIUM, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
CADMIUM, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
COBALT, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
CHROMIUM, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
COPPER, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
MERCURY, TOTAL	007	S	05C0142	06/07/05	06/16/05	06/17/05
MANGANESE, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
MOLYBDENUM, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
NICKEL, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
LEAD, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
ANTIMONY, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
SELENIUM, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
VANADIUM, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
ZINC, TOTAL	007	S	05L0334	06/07/05	06/16/05	06/21/05
J03CH3						
SILVER, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
SILVER, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
SILVER, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
ARSENIC, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
ARSENIC, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
ARSENIC, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
BORON, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
BORON, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
BORON, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
BARIUM, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
BARIUM, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
BARIUM, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
BERYLLIUM, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
BERYLLIUM, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B05-018 H3206

DATE RECEIVED: 06/09/05 LVL LOT # :0506L713

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BERYLLIUM, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
CADMIUM, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
CADMIUM, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
CADMIUM, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
COBALT, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
COBALT, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
COBALT, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
CHROMIUM, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
CHROMIUM, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
CHROMIUM, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
COPPER, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
COPPER, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
COPPER, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
MERCURY, TOTAL	013	S	05C0142	06/07/05	06/16/05	06/17/05
MERCURY, TOTAL	013 REP	S	05C0142	06/07/05	06/16/05	06/17/05
MERCURY, TOTAL	013 MS	S	05C0142	06/07/05	06/16/05	06/17/05
MANGANESE, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
MANGANESE, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
MANGANESE, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
MOLYBDENUM, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
MOLYBDENUM, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
MOLYBDENUM, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
NICKEL, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
NICKEL, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
NICKEL, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
LEAD, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
LEAD, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
LEAD, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
ANTIMONY, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
ANTIMONY, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
ANTIMONY, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
SELENIUM, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
SELENIUM, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
SELENIUM, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
VANADIUM, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05
VANADIUM, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
VANADIUM, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05
ZINC, TOTAL	013	S	05L0334	06/07/05	06/16/05	06/21/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B05-018 H3206

DATE RECEIVED: 06/09/05 LVL LOT # :0506L713

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ZINC, TOTAL	013 REP	S	05L0334	06/07/05	06/16/05	06/21/05
ZINC, TOTAL	013 MS	S	05L0334	06/07/05	06/16/05	06/21/05

LAB QC:

SILVER LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
SILVER, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
ARSENIC LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
ARSENIC, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
BORON LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
BORON, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
BARIUM LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
BARIUM, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
BERYLLIUM LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
BERYLLIUM, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
CADMIUM LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
CADMIUM, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
COBALT LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
COBALT, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
CHROMIUM LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
CHROMIUM, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
COPPER LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
COPPER, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
MERCURY LABORATORY	LC1 BS	S	05C0142	N/A	06/16/05	06/17/05
MERCURY, TOTAL	MB1	S	05C0142	N/A	06/16/05	06/17/05
MANGANESE LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
MANGANESE, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
MOLYBDENUM LABORATOR	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
MOLYBDENUM, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
NICKEL LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
NICKEL, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
LEAD LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
LEAD, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
ANTIMONY LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
ANTIMONY, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
SELENIUM LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
SELENIUM, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
VANADIUM LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B05-018 H3206

DATE RECEIVED: 06/09/05 LVL LOT # :0506L713

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
VANADIUM, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05
ZINC LABORATORY	LC1 BS	S	05L0334	N/A	06/16/05	06/21/05
ZINC, TOTAL	MB1	S	05L0334	N/A	06/16/05	06/21/05

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B05-018
LVL#: 0506L713
SDG/SAF#: H3206/B05-018

W.O.#: 11343-606-001-9999-00
Date Received: 06-09-05

METALS CASE NARRATIVE

1. This narrative covers the analyses of 2 soil samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary. Sample J03CH3 was analyzed with a 6-fold dilution for ICP metals due to sample matrix.

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 (80-120% for Mercury).

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), 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 2 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 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 21 pages.

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

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J03CH3	Manganese	6000	101.9
	Antimony	600	103.4

12. The duplicate analyses for 2 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

13. 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.

14. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

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

7/8/05
Date

jjw/m06-713

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#: 05061713

Leaching Procedure: __1310 __1311 __1312 __Other:_____

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

Metals Digestion Methods: __3005A __3010A __3015 __3020A X3050B __3051 __200.7 __SS17
__Other:_____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B		__200.7				__99
Antimony	X6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	X6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	X6010B		__200.7				__99
Beryllium	X6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	X6010B		__200.7				__99
Cadmium	X6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	__6010B		__200.7				__99
Chromium	X6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	X6010B		__200.7				__99
Copper	X6010B	__7211 [5]	__200.7	__220.2			__99
Iron	__6010B		__200.7				__99
Lead	X6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	__6010B		__200.7				__99
Manganese	X6010B		__200.7				__99
Mercury	__7470A [3]	X7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	X6010B		__200.7				__99
Nickel	X6010B		__200.7				__99
Potassium	__6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	X6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	X6010B	__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	X6010B		__200.7				__99
Zinc	X6010B		__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 06/22/05

CLIENT: TNUHANFORD B05-018 H3206

LVL LOT #: 0506L713

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	J03CJ9	Silver, Total	0.07 u	MG/KG	0.07	1.0
		Arsenic, Total	0.35 u	MG/KG	0.35	1.0
		Boron, Total	0.49	MG/KG	0.18	1.0
		Barium, Total	0.99	MG/KG	0.02	1.0
		Beryllium, Total	0.02	MG/KG	0.008	1.0
		Cadmium, Total	0.02 u	MG/KG	0.02	1.0
		Cobalt, Total	0.09	MG/KG	0.07	1.0
		Chromium, Total	0.13	MG/KG	0.05	1.0
		Copper, Total	0.13	MG/KG	0.06	1.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Manganese, Total	2.3	MG/KG	0.02	1.0
		Molybdenum, Total	0.12 u	MG/KG	0.12	1.0
		Nickel, Total	0.17 u	MG/KG	0.17	1.0
		Lead, Total	0.19 u	MG/KG	0.19	1.0
		Antimony, Total	0.31 u	MG/KG	0.31	1.0
		Selenium, Total	0.38 u	MG/KG	0.38	1.0
		Vanadium, Total	0.13	MG/KG	0.05	1.0
		Zinc, Total	1.7	MG/KG	0.04	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 06/22/05

CLIENT: TNUHANFORD B05-018 H3206 LVL LOT #: 0506L713

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-013	J03CH3	Silver, Total	0.43 u	MG/KG	0.43	6.0
		Arsenic, Total	2.7	MG/KG	2.1	6.0
		Boron, Total	2.4	MG/KG	1.1	6.0
		Barium, Total	90.1	MG/KG	0.09	6.0
		Beryllium, Total	0.38	MG/KG	0.05	6.0
		Cadmium, Total	0.14 u	MG/KG	0.14	6.0
		Cobalt, Total	8.1	MG/KG	0.43	6.0
		Chromium, Total	9.0	MG/KG	0.33	6.0
		Copper, Total	12.7	MG/KG	0.38	6.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Manganese, Total	391	MG/KG	0.09	6.0
		Molybdenum, Total	0.76 u	MG/KG	0.76	6.0
		Nickel, Total	11.4	MG/KG	1.0	6.0
		Lead, Total	4.7	MG/KG	1.2	6.0
		Antimony, Total	1.9 u	MG/KG	1.9	6.0
		Selenium, Total	2.3 u	MG/KG	2.3	6.0
		Vanadium, Total	51.9	MG/KG	0.28	6.0
		Zinc, Total	46.6	MG/KG	0.24	6.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/22/05

CLIENT: TNUHANFORD B05-018 H3206

LVL LOT #: 0506L713

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	05L0334-MB1	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Arsenic, Total	0.45 u	MG/KG	0.45	1.0
		Boron, Total	0.23 u	MG/KG	0.23	1.0
		Barium, Total	0.05	MG/KG	0.02	1.0
		Beryllium, Total	0.01 u	MG/KG	0.01	1.0
		Cadmium, Total	0.03 u	MG/KG	0.03	1.0
		Cobalt, Total	0.09 u	MG/KG	0.09	1.0
		Chromium, Total	0.07 u	MG/KG	0.07	1.0
		Copper, Total	0.08 u	MG/KG	0.08	1.0
		Manganese, Total	0.02	MG/KG	0.02	1.0
		Molybdenum, Total	0.16 u	MG/KG	0.16	1.0
		Nickel, Total	0.22 u	MG/KG	0.22	1.0
		Lead, Total	0.25 u	MG/KG	0.25	1.0
		Antimony, Total	0.40 u	MG/KG	0.40	1.0
		Selenium, Total	0.49 u	MG/KG	0.49	1.0
		Vanadium, Total	0.06 u	MG/KG	0.06	1.0
		Zinc, Total	0.05	MG/KG	0.05	1.0
BLANK1	05C0142-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 06/22/05

CLIENT: TNUHANFORD B05-018 H3206

LVL LOT #: 0506L713

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-013	J03CH3	Silver, Total	3.8	0.43u	3.9	97.4	6.0
		Arsenic, Total	158	2.7	157	98.8	6.0
		Boron, Total	72.8	2.4	78.5	89.7	6.0
		Barium, Total	226	90.1	157	86.6	6.0
		Beryllium, Total	4.3	0.38	3.9	100.4	6.0
		Cadmium, Total	3.9	0.14u	3.9	100	6.0
		Cobalt, Total	46.4	8.1	39.2	97.7	6.0
		Chromium, Total	23.9	9.0	15.7	94.9	6.0
		Copper, Total	30.8	12.7	19.6	92.3	6.0
		Mercury, Total	0.16	0.02u	0.16	105.2	1.0
		Manganese, Total	390	391	39.2	-3.1*	6.0
		Molybdenum, Total	76.3	0.76u	78.5	97.2	6.0
		Nickel, Total	48.7	11.4	39.2	95.2	6.0
		Lead, Total	42.0	4.7	39.2	95.2	6.0
		Antimony, Total	19.2	1.9 u	39.2	49.0	6.0
		Selenium, Total	153	2.3 u	157	97.6	6.0
		Vanadium, Total	89.8	51.9	39.2	96.7	6.0
		Zinc, Total	80.6	46.6	39.2	86.7	6.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 06/22/05

CLIENT: TNUHANFORD B05-018 H3206 LVL LOT #: 0506L713

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-013REP	J03CH3	Silver, Total	0.43u	0.43u	NC	6.0
		Arsenic, Total	2.7	2.4	11.8	6.0
		Boron, Total	2.4	1.3	59.5	6.0
		Barium, Total	90.1	78.6	13.6	6.0
		Beryllium, Total	0.38	0.36	7.7	6.0
		Cadmium, Total	0.14u	0.14u	NC	6.0
		Cobalt, Total	8.1	7.3	10.4	6.0
		Chromium, Total	9.0	8.2	9.3	6.0
		Copper, Total	12.7	10.7	17.1	6.0
		Mercury, Total	0.02u	0.01u	NC	1.0
		Manganese, Total	391	336	15.0	6.0
		Molybdenum, Total	0.76u	0.76u	NC	6.0
		Nickel, Total	11.4	9.4	19.2	6.0
		Lead, Total	4.7	3.2	38.0	6.0
		Antimony, Total	1.9 u	1.9 u	NC	6.0
		Selenium, Total	2.3 u	2.3 u	NC	6.0
		Vanadium, Total	51.9	45.5	13.1	6.0
		Zinc, Total	46.6	41.5	11.6	6.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 06/22/05

CLIENT: TNUHANFORD B05-018 H3206 LVL LOT #: 0506L713

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	05L0334-LC1	Silver, LCS	49.8	50.0	MG/KG	99.6
		Arsenic, LCS	955	1000	MG/KG	95.5
		Boron, LCS	479	500	MG/KG	95.8
		Barium, LCS	497	500	MG/KG	99.4
		Beryllium, LCS	24.6	25.0	MG/KG	98.4
		Cadmium, LCS	24.8	25.0	MG/KG	99.2
		Cobalt, LCS	252	250	MG/KG	100.9
		Chromium, LCS	50.6	50.0	MG/KG	101.2
		Copper, LCS	127	125	MG/KG	101.8
		Manganese, LCS	76.0	75.0	MG/KG	101.3
		Molybdenum, LCS	508	500	MG/KG	101.6
		Nickel, LCS	201	200	MG/KG	100.6
		Lead, LCS	250	250	MG/KG	100.2
		Antimony, LCS	295	300	MG/KG	98.5
		Selenium, LCS	932	1000	MG/KG	93.2
		Vanadium, LCS	246	250	MG/KG	98.6
		Zinc, LCS	99.3	100	MG/KG	99.3
LCS1	05C0142-LC1	Mercury, LCS	6.4	6.2	MG/KG	102.7

REVISION

Custody Transfer Record/Lab Work Request

Page 1 of 2

VLI

Lionville Laboratory Use Only: 0506L7K3

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

Client: TNU-HANFORD SAF# B05-018

Est. Final Proj. Sampling Date:

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

Project Contact/Phone #:

Lionville Laboratory Project Manager: DJ

QC: Spec Del: Std TAT: 7 Days

Date Rec'd: 6/9/05 Date Due: 6/16/05

		A	B	C		D	E		F							
Refrigerator #		1	6	6		6	6		6							
#/Type Container	Liquid															
	Solid	G	G	G		G	G		G							
Volume	Liquid															
	Solid	250	250	250		120	500		250							
Preservatives							—		—							
ANALYSES REQUESTED →		ORGANIC					CHLORO HERB		INORG							
		VOA	BNA	~~Pest~~ PCB	Herb	PST			Metal	CN						
		Lionville Laboratory Use Only														
		6624H	6625H	OPCB		6003H	OHBGX		METALS(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	6624H	6625H	OPCB		6003H	OHBGX		METALS(1)							
001	J03CJ3			Soil	6-7-05	0819					1										
002	4					0822					1										
003	5					0824					1										
004	6					0827					1										
005	7					0836	Specimen			#4	1		Specimen								
006	8					0833					1										
007	9					0730	1	1	1		1	1		1							
008	H8					0804					1										
009	J9					0807					1										
010	J0					0811					1										

Special Instructions:

METALS(1) = RCRA TO + Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:

6/10/05 1. 007-A-C, EF added / cancelled for 005, per bottles received.

2.

3.

4.

5.

6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	6/9/05	1000

Relinquished by	Received by	Date	Time

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

Lionville Laboratory Use Only

0506L713

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TWU-Hanford B05-018

Est. Final Proj. Sampling Date:

Project #:

Project Contact/Phone #: Allpg

Lionville Laboratory Project Manager:

QC: Del: TAT:

Date Rec'd: Date Due:

		A	B	C		D	E		F							
Refrigerator #		1	6	6		6	6		6							
#/Type Container	Liquid															
	Solid	G	G	G		G	G		G							
Volume	Liquid															
	Solid	250	250	250		125	500		250							
Preservatives		—	—	—		—	—		—							
ANALYSES REQUESTED →		ORGANIC							INORG							
		VOA	BNA	~~Pest~~ PCB	Herb	Pest	Chloro Herb		Metal	CN						
Lionville Laboratory Use Only		0624H	0625H	OPCB		0608H	04BOX		METALS(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	OPCB		0608H	04BOX		METALS(1)
011	J03CJ1			6-705	0813	S					1			
012	2				0816						1			
013	H3				0741		1	1	1		1	1		1
014	4				0752						1			
015	5				0755						1			
016	6				0759						1			
017	7				0801						1			

Special Instructions:

METALS(1) = MERCRATO+Sb, Be, B, Co, Cu, Mn, Mo, Ni, V, Zn

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	8/1/15	1000

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

0506L713

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B05-018-001	Page 3 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code: Air Quality	Data Turnaround: 7 day		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill		SAF No.: B05-018
Ice Chest No.: ERC03106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238		Bill of Lading/Air Bill No.: S05-039C

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					

	Sample No.	Matrix *	Sample Date	Sample Time										
1	J03CJ3	SOIL	6-7-05	0819					X				#10	
2	J03CJ4	SOIL		0822					X				11	
3	J03CJ5	SOIL		0824					X				12	
4	J03CJ6	SOIL		0827					X				13	
5	J03CJ7	SOIL		0830					X				14	

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By/Removed From: DOUG	Received By/Stored In: Ref ZC 3728	6-7-05 1615
Relinquished By/Removed From: Doug Bowers	Received By/Stored In:	6-7-05 1615
Relinquished By/Removed From: REF ZC 3728	Received By/Stored In: SJ OATES	6805 1030
Relinquished By/Removed From: SJ OATES	Received By/Stored In: FED EX	6805 1030
Relinquished By/Removed From: FEDEX	Received By/Stored In:	6-9-05 1000
Relinquished By/Removed From:	Received By/Stored In:	6-9-05 1000
Relinquished By/Removed From:	Received By/Stored In:	
Relinquished By/Removed From:	Received By/Stored In:	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) (Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc); Mercury - 7471 - (CV)

Personnel not available to Relinquish samples from 3728 Ref# ZC on 6/8/05

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	B05-018-001	Page 4 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code: Air Quality	Data Turnaround: 7 day		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill		SAF No.: B05-018
Ice Chest No.: SRC 03 106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A050 238		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 [2,4-Dichlorophenoxyacetic acid]	Pesticides - 8081	PCBs - 8082					
Sample No.	Matrix *	Sample Date	Sample Time								
6 J03CJ8	SOIL	6-7-05	0933					X			#15
7 J03CJ9	SOIL	6-7-05	0730	X	X	X	X	X	X		Full suite

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Doug Bowers	6-7-05 1615	Received By/Stored In: Ref 2C 3728	6-7-05 1615
Relinquished By/Removed From: REF 2C 3728	6805 1030	Received By/Stored In: [signature]	6805 1030
Relinquished By/Removed From: [signature] CRC	6805 1030	Received By/Stored In: FED EX	
Relinquished By/Removed From: FED EX	6905 1000	Received By/Stored In: [signature]	6-9-05 1000
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}, Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6 8 105

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	B05-018-001	Page 2 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code: Air Quality	Data Turnaround: 7 day		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill		SAF No.: B05-018
Ice Chest No.: ERC 03 106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A050238		Bill of Lading/Air Bill No.: 5VT 05PC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C D	Cool 4C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					

	Sample No.	Matrix *	Sample Date	Sample Time										
8	J03CH8	SOIL	6-7-05	0804					X				#5	
9	J03CH9	SOIL	↓	0807					X				6	
10	J03CJ0	SOIL		0811					X				7	
11	J03CJ1	SOIL		0813					X				8	
12	J03CJ2	SOIL	↓	0816					X				9	

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Doug Doug Bowers Bowers	6-7-05/1615	Received By/Stored In: R of 2C 3728	6-7-05/1615
Relinquished By/Removed From: REF 2C 3728	6805 1030	Received By/Stored In: SJGALES/Del	6805 1030
Relinquished By/Removed From: SJGALES/Del	6805 ERC 1030	Received By/Stored In: FED EX	
Relinquished By/Removed From: FED EX	6-9-05 1000	Received By/Stored In: [signature]	6-9-05 1000
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to relinquish samples from 3728 Ref # 2C on 6/8/05

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	B05-018-001	Page 1 of 4

Collector: Doug Bowers	Company Contact: Doug Bowers	Telephone No.: 531-0701	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround		
Project Designation: Horseshoe Landfill Residual Pesticide Sampling - Soil	Sampling Location: Horse Shoe Landfill	SAF No.: B05-018	Air Quality: 7 day
Ice Chest No.: ERC 03106	Field Logbook No.: EL 1173-5	COA: R602702000	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES/ LIONVILLE	Offsite Property No.: A050238	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None F	Cool 4C A	Cool 4C B	Cool 4C E	Cool 4C D	Cool 4C C					
Type of Container	aG	aG	aG	aG	aG	aG					
No. of Container(s)	1	1	1	1	1	1					
Volume	250mL	250mL	250mL	500mL	120mL	250mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	Chloro-Herbicides - EPA8151 (2,4-Dichlorophenoxyacetic acid)	Pesticides - 8081	PCBs - 8082					
Sample No.	Matrix *	Sample Date	Sample Time								
13 J03CH3	SOIL	6-7-05	0741	X	X	X	X	X	X		stock pile
14 J03CH4	SOIL		0752					X			#1
15 J03CH5	SOIL		0755					X			2
16 J03CH6	SOIL		0759					X			3
17 J03CH7	SOIL		0801					X			4

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Doug Bowers	Date/Time: Doug Bowers 6-7-05/1615	Received By/Stored In: Ref 2C 3728	Date/Time: 6-7-05/1615
Relinquished By/Removed From: REF 2C 3728	Date/Time: 6805 1030	Received By/Stored In: S J GALES	Date/Time: 6805 1030
Relinquished By/Removed From: S J GALES	Date/Time: ERC 6805 1030	Received By/Stored In: FED EX	Date/Time:
Relinquished By/Removed From: Fed Ex	Date/Time: 6-9-05 1000	Received By/Stored In:	Date/Time: 6-9-05 1000
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) ICP Metals - 6010A (SW-846) {Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Vanadium, Zinc}; Mercury - 7471 - (CV)

Personnel not available to Relinquish samples from 3728 Ref # 2C on 6/8/05

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)

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU- HANFORD

Date: 6-9-05

Purchase Order / Project# / SAP# / SOW# / Release #: B05-018

LvLI Batch # : 05061713

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier	Fed Ex	Airbill# 7923 0223 1110	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 4.2 °C		Cooler # ERC-03-126	
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☑ Yes	☐ No	☐ N/A	
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No		
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies	

SR-002-B

LVLI LIONVILLE LABORATORY INC.