0076748

SAF-RC-032
100-F Remaining Sites Burial Grounds - Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Randy Coffman	X9-07	KW 3/25/08 INITIAL/DATE
Kathy Wendt	H4-21	KW 3/25/08 INITIAL/DATE

RECEIVED
APR 0 2 2008
EDMC

COMMENTS:

SDG K1120 SAF-RC-032

Rad only Chem only X Rad & Chem

X Complete Partial

Waste Site: **100-F-26:9 SP Verification**

EBERLINE
SERVICES

RECEIVED
FEB 2008

February 22, 2008

Ms. Joan Kessner
Washington Closure Hanford
2620 Fermi Avenue
MSIN H4-21
Richland, WA 99352

Reference: **P.O. #630**
Eberline Services R8-02-104-7768, SDG K1120

Dear Ms. Kessner:

Enclosed is the data report for eleven solid (soil) samples designated under SAF No. RC-032, received at Eberline Services on January 14, 2008. The samples were analyzed according to the accompanying chain-of-custody document.

Please call if you have any questions concerning this report.

Sincerely,

FOR Melissa C. Mannion
Senior Program Manager

MCM/njv

Enclosure: Data Package

Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

1.0 GENERAL

Washington Closure Hanford (WCH) Sample Delivery Group K1120 was composed of eleven solid (soil) samples designated under SAF No. RC-032 with a Project Designation of: 100-F Remaining Sites Burial Grounds-Soil Full Protocol.

The samples were received as stated on the Chain-of-Custody document. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist. The results were transmitted to WCH via e-mail on February 21, 2008.

2.0 ANALYSIS NOTES

2.1 Gross Alpha and Gross Beta Analysis

No problems were encountered during the course of the analyses.

2.2 Gamma Spectroscopy

No problems were encountered during the course of the analyses.

3.0 Case Narrative Certification Statement

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

FOR **Melissa C. Mannion**
Senior Program Manager

2/22/08
Date

EBERLINE SERVICES/RICHMOND
SAMPLE DELIVERY GROUP K1120

SDG	7768
Contact	Melissa C. Mannion

Client	Hanford
Contract	No. 630
Case no	SDG_K1120

SUMMARY DATA SECTION

TABLE OF CONTENTS

About this section	1
Sample Summaries	3
Prep Batch Summary	5
Work Summary	6
Method Blanks	8
Lab Control Samples	9
Duplicates	10
Data Sheets	11
Method Summaries	22
Report Guides	28
End of Section	42

Melissa Mannion
Prepared by

Melissa Mannion
Reviewed by

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	02/21/08

SDG 7768
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K1120

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/21/08

ABOUT THE DATA SUMMARY SECTION

DUPLICATES

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

SDG 7768
Contact Melissa C. Mannion

LAB SAMPLE SUMMARY

Client Hanford
Contract No. 630
Case no SDG K1120

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CHAIN OF CUSTODY	COLLECTED
R802104-01	J16961	100-F-26:9 SP Verificati	SOLID		RC-032	RC-032-191	02/12/08 09:00
R802104-02	J16962	100-F-26:9 SP Verificati	SOLID		RC-032	RC-032-191	02/12/08 09:10
R802104-03	J16963	100-F-26:9 SP Verificati	SOLID		RC-032	RC-032-191	02/12/08 09:25
R802104-04	J16964	100-F-26:9 SP Verificati	SOLID		RC-032	RC-032-191	02/12/08 09:45
R802104-05	J16965	100-F-26:9 SP Verificati	SOLID		RC-032	RC-032-191	02/12/08 10:00
R802104-06	J16966	100-F-26:9 SP Verificati	SOLID		RC-032	RC-032-191	02/12/08 10:10
R802104-07	J16967	100-F-26:9 SP Verificati	SOLID		RC-032	RC-032-191	02/12/08 10:25
R802104-08	J16968	100-F-26:9 SP Verificati	SOLID		RC-032	RC-032-191	02/12/08 12:00
R802104-09	J16969	100-F-26:9 SP Verificati	SOLID		RC-032	RC-032-191	02/12/08 12:15
R802104-10	J16970	100-F-26:9 SP Verificati	SOLID		RC-032	RC-032-191	02/12/08 12:30
R802104-11	J16971	100-F-26:9 SP Verificati	SOLID		RC-032	RC-032-191	02/12/08 12:30
R802104-12	Lab Control Sample		SOLID		RC-032		
R802104-13	Method Blank		SOLID		RC-032		
R802104-14	Duplicate (R802104-06)	100-F-26:9 SP Verificati	SOLID		RC-032		02/12/08 10:10

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

SDG 7768
Contact Melissa C. Mannion

QC SUMMARY

Client Hanford
Contract No. 630
Case no SDG K1120

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7768	RC-032-191	J16961	SOLID	91.6	1002 g		02/14/08	2	R802104-01	7768-001
		J16962	SOLID	91.2	943 g		02/14/08	2	R802104-02	7768-002
		J16963	SOLID	90.6	1177 g		02/14/08	2	R802104-03	7768-003
		J16964	SOLID	92.8	997 g		02/14/08	2	R802104-04	7768-004
		J16965	SOLID	92.4	1018 g		02/14/08	2	R802104-05	7768-005
		J16966	SOLID	87.8	1233 g		02/14/08	2	R802104-06	7768-006
		J16967	SOLID	89.9	1002 g		02/14/08	2	R802104-07	7768-007
		J16968	SOLID	89.2	1191 g		02/14/08	2	R802104-08	7768-008
		J16969	SOLID	88.1	1202 g		02/14/08	2	R802104-09	7768-009
		J16970	SOLID	92.7	1119 g		02/14/08	2	R802104-10	7768-010
		J16971	SOLID	91.7	1173 g		02/14/08	2	R802104-11	7768-011
		Method Blank	SOLID						R802104-13	7768-013
		Lab Control Sample	SOLID						R802104-12	7768-012
		Duplicate (R802104-06)	SOLID	87.8	1233 g		02/14/08	2	R802104-14	7768-014

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

SDG 7768
Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
Contract No. 630
Case no SDG K1120

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Gas Proportional Counting												
93A	SOLID	Gross Alpha in Solids	6133-195	20.0	11			1	1	1/1		
93B	SOLID	Gross Beta in Solids	6133-195	15.0	11			1	1	1/1		
Gamma Spectroscopy												
GAM	SOLID	Gamma Scan	6133-195	15.0	11			1	1	1/1		

Duplicates and Matrix Spikes are those with original (Client) sample in this Sample Delivery Group.
Blank and LCS planchets are those in the same preparation batch as some Client, Duplicate or Spike sample.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

SDG 7768
Contact Melissa C. Mannion

LAB WORK SUMMARY

Client Hanford
Contract No. 630
Case no SDG K1120

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
R802104-01	J16961			7768-001	93A/93		02/21/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-001	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08	RC-032-191	RC-032		7768-001	GAM		02/19/08	02/21/08	MWT	Gamma Scan
R802104-02	J16962			7768-002	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-002	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08	RC-032-191	RC-032		7768-002	GAM		02/19/08	02/21/08	MWT	Gamma Scan
R802104-03	J16963			7768-003	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-003	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08	RC-032-191	RC-032		7768-003	GAM		02/19/08	02/21/08	MWT	Gamma Scan
R802104-04	J16964			7768-004	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-004	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08	RC-032-191	RC-032		7768-004	GAM		02/19/08	02/21/08	MWT	Gamma Scan
R802104-05	J16965			7768-005	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-005	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08	RC-032-191	RC-032		7768-005	GAM		02/19/08	02/21/08	MWT	Gamma Scan
R802104-06	J16966			7768-006	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-006	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08	RC-032-191	RC-032		7768-006	GAM		02/19/08	02/21/08	MWT	Gamma Scan
R802104-07	J16967			7768-007	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-007	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08	RC-032-191	RC-032		7768-007	GAM		02/19/08	02/21/08	MWT	Gamma Scan
R802104-08	J16968			7768-008	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-008	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08	RC-032-191	RC-032		7768-008	GAM		02/19/08	02/21/08	MWT	Gamma Scan
R802104-09	J16969			7768-009	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-009	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08	RC-032-191	RC-032		7768-009	GAM		02/19/08	02/21/08	MWT	Gamma Scan
R802104-10	J16970			7768-010	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-010	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08	RC-032-191	RC-032		7768-010	GAM		02/19/08	02/21/08	MWT	Gamma Scan

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

SDG 7768
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K1120

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
R802104-11	J16971			7768-011	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-011	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08	RC-032-191	RC-032		7768-011	GAM		02/20/08	02/21/08	MWT	Gamma Scan
R802104-12	Lab Control Sample			7768-012	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
			SOLID	7768-012	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
		RC-032		7768-012	GAM		02/20/08	02/21/08	MWT	Gamma Scan
R802104-13	Method Blank			7768-013	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
			SOLID	7768-013	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
		RC-032		7768-013	GAM		02/20/08	02/21/08	MWT	Gamma Scan
R802104-14	Duplicate (R802104-06)			7768-014	93A/93		02/20/08	02/21/08	BW	Gross Alpha in Solids
02/12/08	100-F-26:9 SP Verificati		SOLID	7768-014	93B/93		02/20/08	02/21/08	BW	Gross Beta in Solids
02/14/08		RC-032		7768-014	GAM		02/20/08	02/21/08	MWT	Gamma Scan

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
93A/93	RC-032	Gross Alpha in Solids	900.0_ALPHABETA_GPC	11			1	1	1	14
93B/93	RC-032	Gross Beta in Solids	900.0_ALPHABETA_GPC	11			1	1	1	14
GAM	RC-032	Gamma Scan	GAMMA_GS	11			1	1	1	14
TOTALS				33			3	3	3	42

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-013 Method Blank

METHOD BLANK

SDG	7768	Client/Case no	Hanford	SDG K1120
Contact	Melissa C. Mannion	Contract	No. 630	
Lab sample id	R802104-13	Client sample id	Method Blank	
Dept sample id	7768-013	Material/Matrix		SOLID
		SAF No	RC-032	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.854	3.2	6.26	10.0	U	93A
Gross Beta	12587-47-2	-1.84	4.5	7.67	15.0	U	93B
Potassium 40	13966-00-2	U		2.59		U	GAM
Cobalt 60	10198-40-0	U		0.097	0.050	U	GAM
Cesium 137	10045-97-3	U		0.100	0.100	U	GAM
Radium 226	13982-63-3	U		0.209	0.100	U	GAM
Radium 228	15262-20-1	U		0.441	0.200	U	GAM
Europium 152	14683-23-9	U		0.255	0.100	U	GAM
Europium 154	15585-10-1	U		0.305	0.100	U	GAM
Europium 155	14391-16-3	U		0.179	0.100	U	GAM
Thorium 228	14274-82-9	U		0.153		U	GAM
Thorium 232	TH-232	U		0.441		U	GAM
Uranium 235	15117-96-1	U		0.330		U	GAM
Uranium 238	U-238	U		11.4		U	GAM
Americium 241	14596-10-2	U		0.082		U	GAM
Silver 108m	14391-65-2	U		0.079		U	GAM
Barium 133	13981-41-4	U		0.097		U	GAM

100-F Remaining Sites Burial Grounds

QC-BLANK #64775

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-012 Lab Control Sample

LAB CONTROL SAMPLE

SDG 7768
Contact Melissa C. Mannion
Client/Case no Hanford SDG K1120
Contract No. 630

Lab sample id R802104-12
Dept sample id 7768-012
Client sample id Lab Control Sample
Material/Matrix SOLID
SAF No RC-032

ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST	ADDED pCi/g	2σ ERR pCi/g	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	121	18	5.20	10.0		93A	112	4.5	108	59-141	70-130
Gross Beta	108	7.9	5.55	15.0		93B	113	4.5	96	75-125	80-120
Cobalt 60	2.94	0.17	0.101	0.050		GAM	3.01	0.12	98	76-124	80-120
Cesium 137	3.32	0.16	0.115	0.100		GAM	3.25	0.13	102	75-125	80-120

100-F Remaining Sites Burial Grounds

QC-LCS #64774

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-014 J16966

DUPLICATE

SDG	7768			Client/Case no	Hanford SDG K1120
Contact	Melissa C. Mannion			Contract	No. 630
	DUPLICATE		ORIGINAL		
Lab sample id	R802104-14	Lab sample id	R802104-06	Client sample id	J16966
Dept sample id	7768-014	Dept sample id	7768-006	Location/Matrix	100-F-26:9 SP Verificati SOLID
		Received	02/14/08	Collected/Weight	02/12/08 10:10 1233 g
% solids	87.8	% solids	87.8	Custody/SAF No	RC-032-191 RC-032

ANALYTE	DUPLICATE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST	ORIGINAL pCi/g	2σ ERR (COUNT)	MDA pCi/g	QUALI-FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	15.5	8.0	9.89	10.0		93A	10.5	5.5	5.33		38	120	1.0
Gross Beta	19.9	4.7	5.85	15.0		93B	18.9	4.3	5.53		5	59	0.3
Potassium 40	11.9	2.9	0.845			GAM	12.8	2.9	0.746		7	59	0.4
Cobalt 60	U		0.101	0.050	U	GAM	U		0.087	U	-		0.2
Cesium 137	U		0.094	0.100	U	GAM	U		0.098	U	-		0.1
Radium 226	0.399	0.17	0.145	0.100		GAM	0.418	0.19	0.165		5	99	0.1
Radium 228	0.825	0.42	0.358	0.200		GAM	0.526	0.37	0.348		44	128	1.0
Europium 152	U		0.254	0.100	U	GAM	U		0.262	U	-		0
Europium 154	U		0.308	0.100	U	GAM	U		0.306	U	-		0
Europium 155	U		0.222	0.100	U	GAM	U		0.216	U	-		0
Thorium 228	0.726	0.12	0.124			GAM	0.779	0.18	0.190		7	54	0.4
Thorium 232	0.825	0.42	0.358			GAM	0.526	0.37	0.348		44	128	1.0
Uranium 235	U		0.310		U	GAM	U		0.316	U	-		0
Uranium 238	U		11.5		U	GAM	U		11.5	U	-		0
Americium 241	U		0.209		U	GAM	U		0.212	U	-		0
Silver 108m	U		0.072		U	GAM	U		0.073	U	-		0
Barium 133	U		0.102		U	GAM	U		0.096	U	-		0.1

100-F Remaining Sites Burial Grounds

QC-DUP#6 64776

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DUP
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-001 J16961

DATA SHEET

SDG	7768	Client/Case no	Hanford	SDG K1120	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R802104-01	Client sample id	J16961		
Dept sample id	7768-001	Location/Matrix	100-F-26:9 SP Verificati	SOLID	
Received	02/14/08	Collected/Weight	02/12/08 09:00	1002 g	
% solids	91.6	Custody/SAF No	RC-032-191	RC-032	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	13.5	6.8	6.63	10.0		93A
Gross Beta	12587-47-2	2740	35	5.83	15.0		93B
Potassium 40	13966-00-2	14.2	0.61	0.345			GAM
Cobalt 60	10198-40-0	U		0.031	0.050	U	GAM
Cesium 137	10045-97-3	U		0.031	0.100	U	GAM
Radium 226	13982-63-3	0.500	0.066	0.061	0.100		GAM
Radium 228	15262-20-1	0.780	0.15	0.146	0.200		GAM
Europium 152	14683-23-9	U		0.079	0.100	U	GAM
Europium 154	15585-10-1	U		0.101	0.100	U	GAM
Europium 155	14391-16-3	U		0.071	0.100	U	GAM
Thorium 228	14274-82-9	0.693	0.046	0.042			GAM
Thorium 232	TH-232	0.780	0.15	0.146			GAM
Uranium 235	15117-96-1	U		0.124		U	GAM
Uranium 238	U-238	U		3.86		U	GAM
Americium 241	14596-10-2	U		0.036		U	GAM
Silver 108m	14391-65-2	U		0.024		U	GAM
Barium 133	13981-41-4	U		0.036		U	GAM

100-F Remaining Sites Burial Grounds

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-002 J16962

DATA SHEET

SDG	7768	Client/Case no	Hanford	SDG K1120	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R802104-02	Client sample id	J16962		
Dept sample id	7768-002	Location/Matrix	100-F-26:9 SP Verificati	SOLID	
Received	02/14/08	Collected/Weight	02/12/08 09:10	943 g	
% solids	91.2	Custody/SAF No	RC-032-191	RC-032	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	11.0	7.3	8.13	10.0		93A
Gross Beta	12587-47-2	109	7.7	5.74	15.0		93B
Potassium 40	13966-00-2	6.37	0.85	0.440			GAM
Cobalt 60	10198-40-0	U		0.043	0.050	U	GAM
Cesium 137	10045-97-3	U		0.069	0.100	U	GAM
Radium 226	13982-63-3	0.191	0.15	0.082	0.100		GAM
Radium 228	15262-20-1	0.584	0.22	0.168	0.200		GAM
Europium 152	14683-23-9	U		0.112	0.100	U	GAM
Europium 154	15585-10-1	U		0.143	0.100	U	GAM
Europium 155	14391-16-3	U		0.088	0.100	U	GAM
Thorium 228	14274-82-9	0.490	0.092	0.054			GAM
Thorium 232	TH-232	0.584	0.22	0.168			GAM
Uranium 235	15117-96-1	U		0.158		U	GAM
Uranium 238	U-238	U		5.01		U	GAM
Americium 241	14596-10-2	U		0.040		U	GAM
Silver 108m	14391-65-2	U		0.033		U	GAM
Barium 133	13981-41-4	U		0.046		U	GAM

100-F Remaining Sites Burial Grounds

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-003 J16963

DATA SHEET

SDG	7768	Client/Case no	Hanford	SDG K1120
Contact	Melissa C. Mannion	Contract	No. 630	
Lab sample id	R802104-03	Client sample id	J16963	
Dept sample id	7768-003	Location/Matrix	100-F-26:9 SP Verificati	SOLID
Received	02/14/08	Collected/Weight	02/12/08 09:25	1177 g
% solids	90.6	Custody/SAF No	RC-032-191	RC-032

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	3.45	4.3	6.70	10.0	U	93A
Gross Beta	12587-47-2	12.6	3.9	5.63	15.0		93B
Potassium 40	13966-00-2	13.7	0.56	0.302			GAM
Cobalt 60	10198-40-0	U		0.026	0.050	U	GAM
Cesium 137	10045-97-3	U		0.022	0.100	U	GAM
Radium 226	13982-63-3	0.479	0.067	0.051	0.100		GAM
Radium 228	15262-20-1	0.732	0.12	0.112	0.200		GAM
Europium 152	14683-23-9	U		0.062	0.100	U	GAM
Europium 154	15585-10-1	U		0.089	0.100	U	GAM
Europium 155	14391-16-3	U		0.057	0.100	U	GAM
Thorium 228	14274-82-9	0.638	0.036	0.033			GAM
Thorium 232	TH-232	0.732	0.12	0.112			GAM
Uranium 235	15117-96-1	U		0.097		U	GAM
Uranium 238	U-238	U		3.05		U	GAM
Americium 241	14596-10-2	U		0.031		U	GAM
Silver 108m	14391-65-2	U		0.017		U	GAM
Barium 133	13981-41-4	U		0.026		U	GAM

100-F Remaining Sites Burial Grounds

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-004 J16964

DATA SHEET

SDG	7768	Client/Case no	Hanford SDG K1120
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R802104-04	Client sample id	J16964
Dept sample id	7768-004	Location/Matrix	100-F-26:9 SP Verificati SOLID
Received	02/14/08	Collected/Weight	02/12/08 09:45 997 g
% solids	92.8	Custody/SAF No	RC-032-191 RC-032

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	16.3	8.7	8.94	10.0		93A
Gross Beta	12587-47-2	37.4	6.7	9.27	15.0		93B
Potassium 40	13966-00-2	12.3	1.6	0.349			GAM
Cobalt 60	10198-40-0	U		0.033	0.050	U	GAM
Cesium 137	10045-97-3	U		0.075	0.100	U	GAM
Radium 226	13982-63-3	0.484	0.079	0.070	0.100		GAM
Radium 228	15262-20-1	0.680	0.15	0.149	0.200		GAM
Europium 152	14683-23-9	U		0.093	0.100	U	GAM
Europium 154	15585-10-1	U		0.100	0.100	U	GAM
Europium 155	14391-16-3	U		0.104	0.100	U	GAM
Thorium 228	14274-82-9	0.678	0.046	0.044			GAM
Thorium 232	TH-232	0.680	0.15	0.149			GAM
Uranium 235	15117-96-1	U		0.156		U	GAM
Uranium 238	U-238	U		3.78		U	GAM
Americium 241	14596-10-2	U		0.149		U	GAM
Silver 108m	14391-65-2	U		0.025		U	GAM
Barium 133	13981-41-4	U		0.044		U	GAM

100-F Remaining Sites Burial Grounds

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-005 J16965

DATA SHEET

SDG	7768	Client/Case no	Hanford	SDG K1120	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R802104-05	Client sample id	J16965		
Dept sample id	7768-005	Location/Matrix	100-F-26:9 SP Verificati	SOLID	
Received	02/14/08	Collected/Weight	02/12/08 10:00	1018 g	
% solids	92.4	Custody/SAF No	RC-032-191	RC-032	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	12.3	6.9	7.43	10.0		93A
Gross Beta	12587-47-2	20.8	5.8	8.76	15.0		93B
Potassium 40	13966-00-2	11.8	1.7	0.926			GAM
Cobalt 60	10198-40-0	U		0.088	0.050	U	GAM
Cesium 137	10045-97-3	U		0.074	0.100	U	GAM
Radium 226	13982-63-3	0.486	0.17	0.157	0.100		GAM
Radium 228	15262-20-1	0.751	0.42	0.394	0.200		GAM
Europium 152	14683-23-9	U		0.225	0.100	U	GAM
Europium 154	15585-10-1	U		0.270	0.100	U	GAM
Europium 155	14391-16-3	U		0.214	0.100	U	GAM
Thorium 228	14274-82-9	0.907	0.15	0.153			GAM
Thorium 232	TH-232	0.751	0.42	0.394			GAM
Uranium 235	15117-96-1	U		0.315		U	GAM
Uranium 238	U-238	U		11.4		U	GAM
Americium 241	14596-10-2	U		0.355		U	GAM
Silver 108m	14391-65-2	U		0.065		U	GAM
Barium 133	13981-41-4	U		0.093		U	GAM

100-F Remaining Sites Burial Grounds

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-006 J16966

DATA SHEET

SDG	7768	Client/Case no	Hanford	SDG K1120	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R802104-06	Client sample id	J16966		
Dept sample id	7768-006	Location/Matrix	100-F-26:9 SP Verificati	SOLID	
Received	02/14/08	Collected/Weight	02/12/08 10:10	1233 g	
% solids	87.8	Custody/SAF No	RC-032-191	RC-032	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	10.5	5.5	5.33	10.0		93A
Gross Beta	12587-47-2	18.9	4.3	5.53	15.0		93B
Potassium 40	13966-00-2	12.8	2.9	0.746			GAM
Cobalt 60	10198-40-0	U		0.087	0.050	U	GAM
Cesium 137	10045-97-3	U		0.098	0.100	U	GAM
Radium 226	13982-63-3	0.418	0.19	0.165	0.100		GAM
Radium 228	15262-20-1	0.526	0.37	0.348	0.200		GAM
Europium 152	14683-23-9	U		0.262	0.100	U	GAM
Europium 154	15585-10-1	U		0.306	0.100	U	GAM
Europium 155	14391-16-3	U		0.216	0.100	U	GAM
Thorium 228	14274-82-9	0.779	0.18	0.190			GAM
Thorium 232	TH-232	0.526	0.37	0.348			GAM
Uranium 235	15117-96-1	U		0.316		U	GAM
Uranium 238	U-238	U		11.5		U	GAM
Americium 241	14596-10-2	U		0.212		U	GAM
Silver 108m	14391-65-2	U		0.073		U	GAM
Barium 133	13981-41-4	U		0.096		U	GAM

100-F Remaining Sites Burial Grounds

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-007 J16967

DATA SHEET

SDG	7768	Client/Case no	Hanford SDG K1120
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R802104-07	Client sample id	J16967
Dept sample id	7768-007	Location/Matrix	100-F-26:9 SP Verificati SOLID
Received	02/14/08	Collected/Weight	02/12/08 10:25 1002 g
% solids	89.9	Custody/SAF No	RC-032-191 RC-032

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	6.41	5.5	7.20	10.0	U	93A
Gross Beta	12587-47-2	16.5	4.5	6.11	15.0		93B
Potassium 40	13966-00-2	13.7	1.2	0.531			GAM
Cobalt 60	10198-40-0	U		0.060	0.050	U	GAM
Cesium 137	10045-97-3	U		0.051	0.100	U	GAM
Radium 226	13982-63-3	0.401	0.10	0.103	0.100		GAM
Radium 228	15262-20-1	0.634	0.21	0.220	0.200		GAM
Europium 152	14683-23-9	U		0.157	0.100	U	GAM
Europium 154	15585-10-1	U		0.193	0.100	U	GAM
Europium 155	14391-16-3	U		0.175	0.100	U	GAM
Thorium 228	14274-82-9	0.831	0.13	0.128			GAM
Thorium 232	TH-232	0.634	0.21	0.220			GAM
Uranium 235	15117-96-1	U		0.268		U	GAM
Uranium 238	U-238	U		6.43		U	GAM
Americium 241	14596-10-2	U		0.183		U	GAM
Silver 108m	14391-65-2	U		0.052		U	GAM
Barium 133	13981-41-4	U		0.067		U	GAM

100-F Remaining Sites Burial Grounds

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-008 J16968

DATA SHEET

SDG	7768	Client/Case no	Hanford	SDG K1120	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R802104-08	Client sample id	J16968		
Dept sample id	7768-008	Location/Matrix	100-F-26:9 SP Verificati	SOLID	
Received	02/14/08	Collected/Weight	02/12/08 12:00	1191 g	
% solids	89.2	Custody/SAF No	RC-032-191	RC-032	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	7.26	6.4	8.46	10.0	U	93A
Gross Beta	12587-47-2	24.7	6.6	9.25	15.0		93B
Potassium 40	13966-00-2	13.6	0.70	0.347			GAM
Cobalt 60	10198-40-0	U		0.034	0.050	U	GAM
Cesium 137	10045-97-3	U		0.031	0.100	U	GAM
Radium 226	13982-63-3	0.510	0.073	0.071	0.100		GAM
Radium 228	15262-20-1	0.722	0.12	0.131	0.200		GAM
Europium 152	14683-23-9	U		0.077	0.100	U	GAM
Europium 154	15585-10-1	U		0.114	0.100	U	GAM
Europium 155	14391-16-3	U		0.076	0.100	U	GAM
Thorium 228	14274-82-9	0.825	0.064	0.063			GAM
Thorium 232	TH-232	0.722	0.12	0.131			GAM
Uranium 235	15117-96-1	U		0.122		U	GAM
Uranium 238	U-238	U		4.06		U	GAM
Americium 241	14596-10-2	U		0.134		U	GAM
Silver 108m	14391-65-2	U		0.024		U	GAM
Barium 133	13981-41-4	U		0.034		U	GAM

100-F Remaining Sites Burial Grounds

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-009 J16969

DATA SHEET

SDG	7768	Client/Case no	Hanford	SDG K1120
Contact	Melissa C. Mannion	Contract	No. 630	
Lab sample id	R802104-09	Client sample id	J16969	
Dept sample id	7768-009	Location/Matrix	100-F-26:9 SP Verificati	SOLID
Received	02/14/08	Collected/Weight	02/12/08 12:15	1202 g
% solids	88.1	Custody/SAF No	RC-032-191	RC-032

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	8.79	6.2	7.11	10.0		93A
Gross Beta	12587-47-2	19.6	4.4	5.41	15.0		93B
Potassium 40	13966-00-2	11.5	2.5	0.304			GAM
Cobalt 60	10198-40-0	U		0.032	0.050	U	GAM
Cesium 137	10045-97-3	U		0.033	0.100	U	GAM
Radium 226	13982-63-3	0.390	0.11	0.063	0.100		GAM
Radium 228	15262-20-1	0.627	0.21	0.134	0.200		GAM
Europium 152	14683-23-9	U		0.084	0.100	U	GAM
Europium 154	15585-10-1	U		0.103	0.100	U	GAM
Europium 155	14391-16-3	U		0.075	0.100	U	GAM
Thorium 228	14274-82-9	0.897	0.072	0.059			GAM
Thorium 232	TH-232	0.627	0.21	0.134			GAM
Uranium 235	15117-96-1	U		0.108		U	GAM
Uranium 238	U-238	U		3.92		U	GAM
Americium 241	14596-10-2	U		0.073		U	GAM
Silver 108m	14391-65-2	U		0.025		U	GAM
Barium 133	13981-41-4	U		0.033		U	GAM

100-F Remaining Sites Burial Grounds

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-010 J16970

DATA SHEET

SDG	7768	Client/Case no	Hanford	SDG K1120	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R802104-10	Client sample id	J16970		
Dept sample id	7768-010	Location/Matrix	100-F-26:9 SP Verificati	SOLID	
Received	02/14/08	Collected/Weight	02/12/08 12:30	1119 g	
% solids	92.7	Custody/SAF No	RC-032-191	RC-032	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	14.4	7.1	6.91	10.0		93A
Gross Beta	12587-47-2	19.7	4.8	6.36	15.0		93B
Potassium 40	13966-00-2	13.0	0.45	0.184			GAM
Cobalt 60	10198-40-0	U		0.021	0.050	U	GAM
Cesium 137	10045-97-3	U		0.020	0.100	U	GAM
Radium 226	13982-63-3	0.385	0.049	0.048	0.100		GAM
Radium 228	15262-20-1	0.727	0.093	0.091	0.200		GAM
Europium 152	14683-23-9	U		0.060	0.100	U	GAM
Europium 154	15585-10-1	U		0.061	0.100	U	GAM
Europium 155	14391-16-3	U		0.063	0.100	U	GAM
Thorium 228	14274-82-9	0.753	0.050	0.047			GAM
Thorium 232	TH-232	0.727	0.093	0.091			GAM
Uranium 235	15117-96-1	U		0.101		U	GAM
Uranium 238	U-238	U		2.49		U	GAM
Americium 241	14596-10-2	U		0.063		U	GAM
Silver 108m	14391-65-2	U		0.017		U	GAM
Barium 133	13981-41-4	U		0.023		U	GAM

100-F Remaining Sites Burial Grounds

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

7768-011 J16971

DATA SHEET

SDG	7768	Client/Case no	Hanford	SDG K1120	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R802104-11	Client sample id	J16971		
Dept sample id	7768-011	Location/Matrix	100-F-26:9 SP Verificati	SOLID	
Received	02/14/08	Collected/Weight	02/12/08 12:30	1173 g	
% solids	91.7	Custody/SAF No	RC-032-191	RC-032	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	9.00	5.6	5.96	10.0		93A
Gross Beta	12587-47-2	15.5	4.1	5.36	15.0		93B
Potassium 40	13966-00-2	9.40	2.6	0.637			GAM
Cobalt 60	10198-40-0	U		0.067	0.050	U	GAM
Cesium 137	10045-97-3	U		0.069	0.100	U	GAM
Radium 226	13982-63-3	0.301	0.15	0.134	0.100		GAM
Radium 228	15262-20-1	0.388	0.33	0.315	0.200		GAM
Europium 152	14683-23-9	U		0.176	0.100	U	GAM
Europium 154	15585-10-1	U		0.220	0.100	U	GAM
Europium 155	14391-16-3	U		0.153	0.100	U	GAM
Thorium 228	14274-82-9	0.516	0.084	0.084			GAM
Thorium 232	TH-232	0.388	0.33	0.315			GAM
Uranium 235	15117-96-1	U		0.231		U	GAM
Uranium 238	U-238	U		8.35		U	GAM
Americium 241	14596-10-2	U		0.154		U	GAM
Silver 108m	14391-65-2	U		0.053		U	GAM
Barium 133	13981-41-4	U		0.071		U	GAM

100-F Remaining Sites Burial Grounds

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

Test 93A Matrix SOLID
SDG 7768
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS ALPHA IN SOLIDS

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. 630
Contract SDG K1120

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha
Preparation batch 6133-195					
R802104-01	93		7768-001	J16961	13.5
R802104-02	93		7768-002	J16962	11.0
R802104-03	93		7768-003	J16963	U
R802104-04	93		7768-004	J16964	16.3
R802104-05	93		7768-005	J16965	12.3
R802104-06	93		7768-006	J16966	10.5
R802104-07	93		7768-007	J16967	U
R802104-08	93		7768-008	J16968	U
R802104-09	93		7768-009	J16969	8.79
R802104-10	93		7768-010	J16970	14.4
R802104-11	93		7768-011	J16971	9.00
R802104-12	93		7768-012	LCS (QC ID=64774)	ok
R802104-13	93		7768-013	BLK (QC ID=64775)	U
R802104-14	93		7768-014	Duplicate (R802104-06)	ok

Nominal values and limits from method RDLs (pCi/g) 10.0
100-F Remaining Sites Burial Grounds

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

Test 93A Matrix SOLID
SDG 7768
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS ALPHA IN SOLIDS

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. 630
Contract SDG K1120

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 6133-195			2σ prep error 20.0 % Reference Lab Notebook #6133, pg. 195													
R802104-01	93		J16961	6.63	0.100			90		100			9	02/20/08	02/21	GRB-216
R802104-02	93		J16962	8.13	0.100			80		100			8	02/20/08	02/20	GRB-210
R802104-03	93		J16963	6.70	0.100			74		100			8	02/20/08	02/20	GRB-211
R802104-04	93		J16964	8.94	0.100			125		100			8	02/20/08	02/20	GRB-213
R802104-05	93		J16965	7.43	0.100			84		100			8	02/20/08	02/20	GRB-214
R802104-06	93		J16966	5.33	0.100			54		100			8	02/20/08	02/20	GRB-216
R802104-07	93		J16967	7.20	0.100			83		100			8	02/20/08	02/20	GRB-105
R802104-08	93		J16968	8.46	0.100			91		100			8	02/20/08	02/20	GRB-107
R802104-09	93		J16969	7.11	0.100			85		100			8	02/20/08	02/20	GRB-109
R802104-10	93		J16970	6.91	0.100			79		100			8	02/20/08	02/20	GRB-110
R802104-11	93		J16971	5.96	0.100			68		100			8	02/20/08	02/20	GRB-111
R802104-12	93		LCS (QC ID=64774)	5.20	0.100			60		100				02/20/08	02/20	GRB-112
R802104-13	93		BLK (QC ID=64775)	6.26	0.100			61		100				02/20/08	02/20	GRB-114
R802104-14	93		Duplicate (R802104-06) (QC ID=64776)	9.89	0.100			54		100			8	02/20/08	02/20	GRB-115
Nominal values and limits from method				10.0	0.100			5-250		100			180			

PROCEDURES	REFERENCE	900.0_ALPHABETA_GPC
	SPP-070	Soil Dissolution, < 1.0g Aliquot, rev 7
	SPP-125	Gross Alpha and Gross Beta in Dissolved Solids, rev 0

AVERAGES ± 2 SD FOR 14 SAMPLES				
	MDA	7.15	±	2.68
	RESIDUE	78	±	37

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

Test 93B Matrix SOLID
SDG 7768
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS BETA IN SOLIDS

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. 630
Contract SDG K1120

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta
Preparation batch 6133-195					
R802104-01	93		7768-001	J16961	2740
R802104-02	93		7768-002	J16962	109
R802104-03	93		7768-003	J16963	12.6
R802104-04	93		7768-004	J16964	37.4
R802104-05	93		7768-005	J16965	20.8
R802104-06	93		7768-006	J16966	18.9
R802104-07	93		7768-007	J16967	16.5
R802104-08	93		7768-008	J16968	24.7
R802104-09	93		7768-009	J16969	19.6
R802104-10	93		7768-010	J16970	19.7
R802104-11	93		7768-011	J16971	15.5
R802104-12	93		7768-012	LCS (QC ID=64774)	ok
R802104-13	93		7768-013	BLK (QC ID=64775)	U
R802104-14	93		7768-014	Duplicate (R802104-06)	ok

Nominal values and limits from method RDLs (pCi/g) 15.0
100-F Remaining Sites Burial Grounds

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

Test 93B Matrix SOLID
SDG 7768
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS BETA IN SOLIDS

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. 630
Contract SDG K1120

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 6133-195			2σ prep error 15.0 % Reference Lab Notebook #6133, pg. 195													
R802104-01	93		J16961	5.83	0.100			90		100			8	02/20/08	02/20	GRB-209
~~R802104-02~~	~~93~~		~~J16962~~	~~5.74~~	~~0.100~~			~~80~~		~~100~~			~~8~~	~~02/20/08~~	~~02/20~~	~~GRB-210~~
R802104-03	93		J16963	5.63	0.100			74		100			8	02/20/08	02/20	GRB-211
R802104-04	93		J16964	9.27	0.100			125		100			8	02/20/08	02/20	GRB-213
R802104-05	93		J16965	8.76	0.100			84		100			8	02/20/08	02/20	GRB-214
R802104-06	93		J16966	5.53	0.100			54		100			8	02/20/08	02/20	GRB-216
R802104-07	93		J16967	6.11	0.100			83		100			8	02/20/08	02/20	GRB-105
R802104-08	93		J16968	9.25	0.100			91		100			8	02/20/08	02/20	GRB-107
R802104-09	93		J16969	5.41	0.100			85		100			8	02/20/08	02/20	GRB-109
R802104-10	93		J16970	6.36	0.100			79		100			8	02/20/08	02/20	GRB-110
R802104-11	93		J16971	5.36	0.100			68		100			8	02/20/08	02/20	GRB-111
R802104-12	93		LCS (QC ID=64774)	5.55	0.100			60		100				02/20/08	02/20	GRB-112
R802104-13	93		BLK (QC ID=64775)	7.67	0.100			61		100				02/20/08	02/20	GRB-114
R802104-14	93		Duplicate (R802104-06) (QC ID=64776)	5.85	0.100			54		100			8	02/20/08	02/20	GRB-115
Nominal values and limits from method				15.0	0.100			5-250		100			180			

PROCEDURES REFERENCE 900.0_ALPHABETA_GPC
SPP-070 Soil Dissolution, < 1.0g Aliquot, rev 7
SPP-125 Gross Alpha and Gross Beta in Dissolved Solids, rev 0

AVERAGES ± 2 SD MDA 6.59 ± 2.95
FOR 14 SAMPLES RESIDUE 78 ± 37

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

Test GAM Matrix SOLID	Client Hanford
SDG 7768	Contract No. 630
Contact Melissa C. Mannion	Contract SDG K1120

LAB METHOD SUMMARY

GAMMA SCAN

GAMMA SPECTROSCOPY

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt 60		Cesium 137	
Preparation batch 6133-195								
R802104-01			7768-001	J16961	U		U	
R802104-02			7768-002	J16962	U		U	
R802104-03			7768-003	J16963	U		U	
R802104-04			7768-004	J16964	U		U	
R802104-05			7768-005	J16965	U		U	
R802104-06			7768-006	J16966	U		U	
R802104-07			7768-007	J16967	U		U	
R802104-08			7768-008	J16968	U		U	
R802104-09			7768-009	J16969	U		U	
R802104-10			7768-010	J16970	U		U	
R802104-11			7768-011	J16971	U		U	
R802104-12			7768-012	LCS (QC ID=64774)	ok		ok	
R802104-13			7768-013	BLK (QC ID=64775)	U		U	
R802104-14			7768-014	Duplicate (R802104-06)	-	U	-	U
Nominal values and limits from method				RDLs (pCi/g)	0.050		0.100	
100-F Remaining Sites Burial Grounds								

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-LMS
Version	3.06
Report date	02/21/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1120

Test GAM Matrix SOLID
SDG 7768
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA SCAN

GAMMA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K1120

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 6133-195			2σ prep error 15.0 % Reference Lab Notebook #6133, pg. 195													
R802104-01			J16961	7.73	174					804			7	02/19/08	02/19	JR,01,00
R802104-02			J16962	9.77	185					805			7	02/19/08	02/19	JR,06,00
R802104-03			J16963	6.12	193					805			7	02/19/08	02/19	JR,07,00
R802104-04			J16964	8.15	180					805			7	02/19/08	02/19	JR,08,00
R802104-05			J16965	16.9	194					104			7	02/19/08	02/19	JR,05,00
R802104-06			J16966	21.1	191					106			7	02/19/08	02/19	JR,04,00
R802104-07			J16967	12.2	201					106			7	02/19/08	02/19	JR,02,00
R802104-08			J16968	6.66	185					804			7	02/19/08	02/19	JR,05,00
R802104-09			J16969	7.32	190					804			7	02/19/08	02/19	JR,04,00
R802104-10			J16970	4.69	195					804			7	02/19/08	02/19	JR,02,00
R802104-11			J16971	15.7	203					148			8	02/19/08	02/20	JR,04,00
R802104-12			LCS (QC ID=64774)	0.101	174					148				02/19/08	02/20	JR,08,00
R802104-13			BLK (QC ID=64775)	21.4	174					149				02/19/08	02/20	JR,06,00
R802104-14			Duplicate (R802104-06) (QC ID=64776)	21.3	191					102			8	02/19/08	02/20	JR,04,00
Nominal values and limits from method				0.050	174					100			180			

PROCEDURES REFERENCE GAMMA_GS
SPP-100 Ge(Li) Preparation for Commercial Samples, rev 7

AVERAGES ± 2 SD FOR 14 SAMPLES
MDA 11.4 ± 13.7
YIELD ____ ± ____

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 02/21/08

SDG 7768
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K1120

SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

* LAB SAMPLE ID is the lab's primary identification for a sample.

* DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.

* CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.

* QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

  QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

* All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/21/08

SDG 7768
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K1120

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

* The preparation batches are shown in the same order as the Method Summary Reports are printed.

* Only analyses of planchets relevant to the SDG are included.

* Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.

* The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

  These qualifiers should be reviewed as follows:

  X Some data has been manually entered or modified. Transcription errors are possible.

  P One or more results are 'preliminary'. The data is not ready for final reporting.

  2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

  Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/21/08

SDG 7768
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K1120

WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

* TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.

* SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.

* The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.

* PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.

* For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

* The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/21/08

SDG 7768
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K1120

DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

* TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.

* The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

  The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

* ERRORs can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.

* A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.

* When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

U The RESULT is less than the MDA (Minimum Detectable Activity).

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/21/08

DATA SHEET

If the MDA is blank, the ERROR is used as the limit.

J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.

B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.

Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.

For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.

L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.

H Similar to 'L' except the recovery was high.

P The RESULT is 'preliminary'.

X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.

2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

* An MDA is underlined if it is bigger than its RDL.

SDG 7768
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG K1120

DATA SHEET

* An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA may not be a good estimate of the 'real' minimum detectable activity.

* A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.

* When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/21/08

SDG 7768
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K1120

LAB CONTROL SAMPLE

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.

* An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

  An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

* REC (Recovery) is RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The error of RESULT, including that introduced by rounding the result prior to printing.

     If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

  2. The error of ADDED.

  3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

* The second limits are protocol defined upper and lower QC limits for the recovery.

* The recovery is underlined if it is outside either of these ranges.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/21/08

SDG 7768
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K1120

DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

  If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTs are underlined.

* The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTs divided by their average expressed as a percent.

  If both RESULTs are less than their MDAs, no RPD is computed and a '-' is printed.

  For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

* The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTs prior to printing.

  If this limit is labeled TOT, it includes the preparation error in the RESULTs. If labeled CNT, it does not.

  This value reported for this limit is at most 999.

* The second limit for the RPD is the larger of:

  1. A fixed percentage specified in the protocol.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/21/08

SDG 7768
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG K1120

DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

* The RPD is underlined if it is greater than either limit.

* If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

  Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

* The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

SDG 7768
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_K1120

MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

* All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

  If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTs are underlined.

* An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

  An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

* REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

* The first, computed limits for the recovery reflect:

  1. The errors of the two RESULTs, including those introduced by rounding them prior to printing.

     If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

  2. The error of ADDED.

  3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

* The second limits are protocol defined upper and lower QC limits

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/21/08

SDG 7768
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG K1120

MATRIX SPIKE

for the recovery.

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

* The recovery is underlined (out of spec) if it is outside either of these ranges.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/21/08

SDG 7768
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K1120

METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

* Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

  There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

* The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

  The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

* If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

  The J and X flags are as on the data sheet.

* Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.

* Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data'

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 02/21/08

METHOD SUMMARY

means no amount ADDED was specified. 'LOW' and 'HIGH' correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

* Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.

* If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

  MDAs are underlined if greater than the printed RDL.

* Aliquots are underlined if less than the nominal value specified for the method.

* Prepareation factors are underlined if greater than the nominal value specified for the method.

* Dilution factors are underlined if greater than the nominal value specified for the method.

* Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.

* Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.

* Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

METHOD SUMMARY

* Count times are underlined if less than the nominal value specified for the method.

* Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.

* Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.

* Days Held are underlined if greater than the holding time specified in the protocol.

* Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1÷3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant

METHOD SUMMARY

results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included. No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 1 of 3

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification K1120 (7768)	SAF No.: RC-032	
Ice Chest No.: ERC-96-014	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080165	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

SAMPLE ANALYSIS													
			Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
			Type of Container	P	P	aG	aG	aG	aG	P	P		
			No. of Container(s)	2	1	1	1	1	1	1	1		
			Volume	125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta		
Sample No.	Matrix *	Sample Date	Sample Time										
J16961	SOIL	2-12-08	0900							X	X		1
J16962	SOIL		0910							X	X		2
J16963	SOIL		0925							X	X		3
J16964	SOIL		~~0940~~ 0945							X	X		4
J16965	SOIL	2-12-08	1000							X	X		5

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: [signature]	2-12-08 1400	Received By/Stored In: [signature]	1400 2-12-08
Relinquished By/Removed From: JR DeBruijne [signature]	1545 2-12-08	Received By/Stored In: 1060 / 2B	1545 2-12-08
Relinquished By/Removed From: 1060 #2B	2-13-08 0800	Received By/Stored In: JR Edmundson [signature]	2-13-08 0800
Relinquished By/Removed From: WCH JR Edmundson	2-13-08 1500	Received By/Stored In: FED EX	
Relinquished By/Removed From: FED EX		Received By/Stored In: [signature]	02/14/08 09:30
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 custodian removed samples from ref#2B for shipping on 2-13-08

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

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 2 of 3

Collector T. Welch-Koelling	**Company Contact** R.T. Coffman	**Telephone No.** 528-6409	**Project Coordinator** KESSNER, JH
Price Code 8B	**Data Turnaround** 7DAY		
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	**Sampling Location** 100-F-26:9 SP Verification K1120 (7768)	**SAF No.** RC-032	
Ice Chest No. ERC-96-014	**Field Logbook No.** EFL-1174-4	**COA** R10F262000	**Method of Shipment** FED EX
Shipped To EBERLINE SERVICES/ LIONVILLE	**Offsite Property No.** A080165	**Bill of Lading/Air Bill No.** SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
Type of Container	P	P	aG	aG	aG	aG	P	P		
No. of Container(s)	2	1	1	1	1	1	1	1		
Volume	125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta		
Sample No. / **Matrix *** / **Sample Date** / **Sample Time**										
J16966 / SOIL / 2-12-08 / 1010		JRD					X	X		6
J16967 / SOIL / ↓ / 1025							X	X		7
J16968 / SOIL / ↓ / 1200							X	X		8
J16969 / SOIL / ↓ / 1215							X	X		9
J16970 / SOIL / 2-12-08 / 1230							X	X		10

2-7-08

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: T.W. Welch-Koelling	2-12-08 1400	Received By/Stored In: JR DeBuique	1400 2-12-08
Relinquished By/Removed From: JR DeBuique	2-12-08 1545	Received By/Stored In: 1060 /2D	1545 2-12-08
Relinquished By/Removed From: 1060 #2B	2-13-08 0800	Received By/Stored In: JR Sheridan	2-13-08 0800
Relinquished By/Removed From: JR Sheridan	2-13-08 1500	Received By/Stored In: FED EX	
Relinquished By/Removed From: FED EX		Received By/Stored In:	02/14/08 09:30
Relinquished By/Removed From:		Received By/Stored In:	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 1060 #2B. 1060 custodian removed samples for shipping on 2-13-08.

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

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 3 of 3

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification K1120 (7768)	SAF No.: RC-032	
Ice Chest No.: ERC-96-014	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A080165	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
Type of Container	P	P	aG	aG	aG	aG	P	P		
No. of Container(s)	2	1	1	1	1	1	1	1		
Volume	125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta		
Sample No. / Matrix * / Sample Date / Sample Time										
J16971 / SOIL / 2-12-08 / 1230							X	X		10 D

JPD 2-12-08

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 2-12-08 1400	Received By/Stored In	Date/Time 1400 2-12-08
Relinquished By/Removed From	Date/Time 1545 2-12-08	Received By/Stored In 1060/2B	Date/Time 1545 2-12-08
Relinquished By/Removed From 1060 #2B	Date/Time 2-13-08 0800	Received By/Stored In	Date/Time 2-13-08 0800
Relinquished By/Removed From WCH	Date/Time 2-13-08 1500	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From FED EX	Date/Time	Received By/Stored In	Date/Time 02/14/08 09:30
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 1060 #2B. 1060 Custodian removed samples for shipping on 2-13-08

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

WCH-EE-011

EBERLINE

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

JK 2/14/08

Client: W.C. HANFORD City RICHLAND State WA

Date/Time received 02/14/08 09:30 CoC No. RC-032-191

Container I.D. No. ERC-96-014 Requested TAT (Days) 7 P.O. Received Yes [ ] No [ ]

INSPECTION

1. Custody seals on shipping container intact? Yes [X] No [ ] N/A [ ]
2. Custody seals on shipping container dated & signed? Yes [X] No [ ] N/A [ ]
3. Custody seals on sample containers intact? Yes [X] No [ ] N/A [ ]
4. Custody seals on sample containers dated & signed? Yes [X] No [ ] N/A [ ]
5. Packing material is: Wet [ ] Dry [X]
6. Number of samples in shipping container: 11 Sample Matrix S
7. Number of containers per sample: 2 (Or see CoC _____)
8. Samples are in correct container Yes [X] No [ ]
9. Paperwork agrees with samples? Yes [X] No [ ]
10. Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [X]
11. Samples are: In good condition [X] Leaking [ ] Broken Container [ ] Missing [ ]
12. Samples are: Preserved [ ] Not preserved [ ] pH _____ Preservative _____
13. Describe any anomalies:
14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by [signature] Date: 02/14/08 Time: 10:15

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
ALL SAMPLES	<60						

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. 100482 Calibration date 09 MAY 07

LvLI
LIONVILLE LABORATORY INC.

RECEIVED
MAR 2008

21 March 2008

Joan Kessner
WC-Hanford
2620 Fermi Avenue
MSIN H9-03
Richland, WA 99354

Subject: 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 #	0802L600
SDG #	K1120
SAF #	RC-032
Date Received	2/14/08
# Samples	11
Matrix	SOIL
Volatiles	
Semivolatiles	X
Pest/PCB	X
Glycols	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
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
MAR 2008

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # : 08021600

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16961	001	S	08LE0080	02/12/08	02/18/08	02/26/08
J16961	001 MS	S	08LE0080	02/12/08	02/18/08	02/26/08
J16961	001 MSD	S	08LE0080	02/12/08	02/18/08	02/26/08
J16962	002	S	08LE0080	02/12/08	02/18/08	02/27/08
J16963	003	S	08LE0080	02/12/08	02/18/08	02/27/08
J16964	004	S	08LE0080	02/12/08	02/18/08	02/28/08
J16965	005	S	08LE0080	02/12/08	02/18/08	02/27/08
J16966	006	S	08LE0080	02/12/08	02/18/08	02/27/08
J16967	007	S	08LE0080	02/12/08	02/18/08	02/27/08
J16968	008	S	08LE0080	02/12/08	02/18/08	02/27/08
J16969	009	S	08LE0080	02/12/08	02/18/08	02/27/08
J16970	010	S	08LE0080	02/12/08	02/18/08	02/28/08
J16970	010 R1	S	08LE0112	02/12/08	03/04/08	03/15/08
J16971	011	S	08LE0080	02/12/08	02/18/08	02/27/08

LAB QC:

SBLKSM	MB1	S	08LE0080	N/A	02/18/08	02/26/08
SBLKSM	MB1 BS	S	08LE0080	N/A	02/18/08	02/26/08
SBLKTB	MB1	S	08LE0112	N/A	03/04/08	03/15/08
SBLKTB	MB1 BS	S	08LE0112	N/A	03/04/08	03/15/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-032
LVL #: 0802L600
SDG/SAF # K1120/RC-032

W.O. #: 11343-606-001-9999-00
Date Received: 02-14-2008

SEMIVOLATILE

Eleven (11) soil samples were collected on 02-12-2008.

The samples and their associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3540C on 02-18-2008 and 03-04-2008 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 02-26,27,28-2008 and 03-15-2008.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. Samples were extracted and analyzed within required holding time, with the exception of sample J16970 originally extracted within its required holding time, but due to low surrogate recovery, the sample was re-extracted outside of hold time. Both the original and re-extracted results have been reported. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

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

3. Samples J16961 MS, J16961 MSD, and 08LE0080-MB1S required a 2-fold dilution. Reporting limits have been adjusted to reflect the necessary dilutions.

4. Six (6) of one hundred and eight (108) surrogate recoveries were outside acceptance criteria. The surrogate recovery criteria were not met for sample J16970. A copy of the Sample Discrepancy Report (SDR) has been enclosed. The sample was re-extracted on 03-04-2008, re-analyzed on 03-15-2008 and reported.

r:\group\data\2008\bna\tnu\0802-600ks2.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 33 pages.

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

LIONVILLE LABORATORY INC.

5. Twenty-one (21) of one hundred and twenty-eight (128) matrix spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

6. Twenty-one (21) of one hundred and twenty-eight (128) blank spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

7. The method blanks were below the reporting limit for all target compounds.

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

9. All continuing calibrations standards analyzed prior to sample extracts were within acceptance criteria.

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

11. 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").

12. LvLI is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

13. 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.

Judy Stm

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

3/19/08
Date

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

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 08M5022

Initiator: Shawn Sytor
Date: 2-29-08
Client: THU RL032

Batch: 08L2L600
Samples: 010, MS, BS
Method: SW846/MCAWW/CLP/

Parameter: 8270
Matrix: SOLID
Prep Batch: 08LE0080

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)

① low spike recoveries in the MS + BS but surrs did ok
② all six surrogates out of QC range in sample 010 (J16970)

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:
① nuate
② re extract if possible

4. Project Manager Instructions...signature/date: [signature] 2/27/08

✓ Concur with Proposed Action ② re extract-only
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: [signature] 3-20-08

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

Other Explanation:
Reextracted in Batch 08LE0112

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
①	X Project Mgr: Stone/Johnson		__ GC/LC: Kiger
__	__ Data Management: Stilwell	②	X MS: Rychlak/Daley
__	__ Sample Prep: Beegle/Kiger	__	__ Log-in: Perry
		__	__ Admin: _____
		__	__ Other: _____

QA-105-A-0805

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 08M5033

Initiator: Shawn Sylvester
Date: 3-17-08
Client: TWU BC032

Batch: 08PZL600
Samples: BS-112
Method: SW846/MCAWW/CLP/

Parameter: 8270
Matrix: Solid
Prep Batch: 08LE0112

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)

low recovery of several spike analytes in BS-112

2. Known or Probable Causes(s)

3. Discussion and Proposed Action Other Description: narrate

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

4. Project Manager Instructions...signature/date: _____

__ 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: VDB 3-20-08 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
1	X Project Mgr: Stone/Johnson		__ GC/LC: Kiger
__	__ Data Management: Stilwell	4	X MS: Rychlak/Daley
__	__ Sample Prep: Beegle/Kiger	__	__ Log-in: Perry
		__	__ Admin: _____
		__	__ Other: _____

QA-105-A-0805

GLOSSARY

DATA QUALIFIERS

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

GLOSSARY

ABBREVIATIONS

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

TECHNICAL FLAGS FOR MANUAL INTEGRATION

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

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

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

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

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

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

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

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 03/19/08 09:07

RFW Batch Number: 0802L600 Client: TNUHANFORD RC-032 K1120 Work Order: 11343606001 Page: 1a

	Cust ID:	J16961	J16961	J16961	J16962	J16963	J16964
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	2.00	2.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	60 %	56 %	75 %	64 %	56 %	53 %
	2-Fluorobiphenyl	64 %	57 %	77 %	74 %	61 %	59 %
	Terphenyl-d14	82 %	61 %	77 %	80 %	73 %	85 %
	Phenol-d5	59 %	53 %	76 %	75 %	61 %	54 %
	2-Fluorophenol	58 %	54 %	76 %	84 %	68 %	54 %
	2,4,6-Tribromophenol	105 %	68 %	91 %	57 %	48 %	86 %
		fl	fl	fl	fl	fl	fl
Phenol		370 U	55 %	79 %	360 U	360 U	360 U
bis(2-Chloroethyl)ether		370 U	49 * %	71 %	360 U	360 U	360 U
2-Chlorophenol		370 U	54 %	77 %	360 U	360 U	360 U
1,3-Dichlorobenzene		370 U	47 * %	65 %	360 U	360 U	360 U
1,4-Dichlorobenzene		370 U	46 * %	67 %	360 U	360 U	360 U
1,2-Dichlorobenzene		370 U	48 * %	68 %	360 U	360 U	360 U
2-Methylphenol		370 U	58 * %	83 %	360 U	360 U	360 U
2,2'-oxybis(1-Chloropropane)		370 U	49 * %	71 %	360 U	360 U	360 U
3/4 Methylphenol		370 U	62 %	85 %	360 U	360 U	360 U
N-Nitroso-di-n-propylamine		370 U	51 %	79 %	360 U	360 U	360 U
Hexachloroethane		370 U	49 * %	68 %	360 U	360 U	360 U
Nitrobenzene		370 U	54 %	70 %	360 U	360 U	360 U
Isophorone		370 U	62 %	81 %	360 U	360 U	360 U
2-Nitrophenol		370 U	54 %	72 %	360 U	360 U	360 U
2,4-Dimethylphenol		370 U	60 %	85 %	360 U	360 U	360 U
bis(2-Chloroethoxy)methane		370 U	55 %	71 %	360 U	360 U	360 U
2,4-Dichlorophenol		370 U	56 %	78 %	360 U	360 U	360 U
1,2,4-Trichlorobenzene		370 U	54 * %	70 %	360 U	360 U	360 U
Naphthalene		370 U	51 %	68 %	360 U	360 U	360 U
4-Chloroaniline		370 U	31 %	55 %	360 U	360 U	360 U
Hexachlorobutadiene		370 U	61 %	77 %	360 U	360 U	360 U
4-Chloro-3-methylphenol		370 U	58 * %	80 %	360 U	360 U	360 U
2-Methylnaphthalene		370 U	56 * %	78 %	360 U	360 U	360 U
Hexachlorocyclopentadiene		370 U	55 %	75 %	360 U	360 U	360 U
2,4,6-Trichlorophenol		370 U	57 %	79 %	360 U	360 U	360 U
2,4,5-Trichlorophenol		920 U	59 %	85 %	910 U	900 U	910 U

*= Outside of EPA CLP QC limits.

000000009

RFW Batch Number: 0802L600 Client: TNUHANFORD RC-032 K1120 Work Order: 11343606001 Page: 1b

Cust ID:	J16961		J16961		J16961		J16962		J16963		J16964	
RFW#:	001		001 MS		001 MSD		002		003		004	
2-Chloronaphthalene	370	U	54	%	73	%	360	U	360	U	360	U
2-Nitroaniline	920	U	62	%	86	%	910	U	900	U	910	U
Dimethylphthalate	370	U	56	%	77	%	360	U	360	U	360	U
Acenaphthylene	370	U	56 *	%	78	%	360	U	360	U	360	U
2,6-Dinitrotoluene	370	U	55 *	%	74	%	360	U	360	U	360	U
3-Nitroaniline	920	U	58	%	113	%	910	U	900	U	910	U
Acenaphthene	370	U	54	%	72	%	360	U	360	U	360	U
2,4-Dinitrophenol	920	U	22	%	54	%	910	U	900	U	910	U
4-Nitrophenol	920	U	46	%	77	%	910	U	900	U	910	U
Dibenzofuran	370	U	54 *	%	76	%	360	U	360	U	360	U
2,4-Dinitrotoluene	370	U	51 *	%	74	%	360	U	360	U	360	U
Diethylphthalate	370	U	57	%	75	%	360	U	360	U	360	U
4-Chlorophenyl-phenylether	370	U	51	%	75	%	360	U	360	U	360	U
Fluorene	370	U	46 *	%	64	%	360	U	360	U	360	U
4-Nitroaniline	920	U	59	%	96	%	910	U	900	U	910	U
4,6-Dinitro-2-methylphenol	920	U	49	%	68	%	910	U	900	U	910	U
N-Nitrosodiphenylamine (1)	370	U	60	%	78	%	360	U	360	U	360	U
4-Bromophenyl-phenylether	370	U	51	%	69	%	360	U	360	U	360	U
Hexachlorobenzene	370	U	66	%	96	%	360	U	360	U	360	U
Pentachlorophenol	920	U	57	%	78	%	910	U	900	U	910	U
Phenanthrene	370	U	55 *	%	73	%	360	U	150	J	22	J
Anthracene	370	U	54 *	%	75	%	360	U	26	J	360	U
Carbazole	370	U	73	%	102	%	360	U	360	U	360	U
Di-n-butylphthalate	370	U	57	%	76	%	22	J	360	U	360	U
Fluoranthene	370	U	53	%	75	%	360	U	200	J	28	J
Pyrene	370	U	58	%	74	%	360	U	260	J	42	J
Butylbenzylphthalate	370	U	66	%	83	%	360	U	360	U	360	U
3,3'-Dichlorobenzidine	370	U	24	%	57	%	360	U	360	U	360	U
Benzo(a)anthracene	370	U	56	%	76	%	360	U	120	J	21	J
Chrysene	370	U	56	%	78	%	360	U	160	J	25	J
bis(2-Ethylhexyl)phthalate	510	B	47 *	%	70	%	59	JB	61	JB	110	JB
Di-n-octyl phthalate	370	U	66	%	73	%	360	U	360	U	360	U
Benzo(b)fluoranthene	370	U	58 *	%	74	%	360	U	75	J	360	U
Benzo(k)fluoranthene	370	U	57	%	76	%	360	U	120	J	360	U
Benzo(a)pyrene	370	U	54	%	79	%	360	U	140	J	360	U
Indeno(1,2,3-cd)pyrene	370	U	52 *	%	89	%	360	U	83	J	360	U
Dibenz(a,h)anthracene	370	U	52	%	86	%	360	U	360	U	360	U
Benzo(g,h,i)perylene	370	U	49 *	%	90	%	360	U	87	J	360	U

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

000000010

Lionville Laboratory, Inc.
Semivolatiles by GC/MS, HSL List
Report Date: 03/19/08 09:07

RFW Batch Number: 0802L600 Client: TNUHANFORD RC-032 K1120 Work Order: 11343606001 Page: 2a

	Cust ID:	J16965		J16966		J16967		J16968		J16969		J16970	
Sample Information	RFW#:	005		006		007		008		009		010	
	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	53	%	52	%	53	%	57	%	46	%	4 *	%
	2-Fluorobiphenyl	56	%	62	%	56	%	64	%	57	%	5 *	%
	Terphenyl-d14	77	%	59	%	79	%	76	%	63	%	7 *	%
	Phenol-d5	56	%	54	%	51	%	66	%	54	%	4 *	%
	2-Fluorophenol	58	%	66	%	55	%	75	%	63	%	5 *	%
	2,4,6-Tribromophenol	50	%	42	%	47	%	56	%	35	%	4 *	%
			fl		fl		fl		fl		fl		fl
Phenol		370	U	390	U	380	U	380	U	380	U	370	U
bis(2-Chloroethyl)ether		370	U	390	U	380	U	380	U	380	U	370	U
2-Chlorophenol		370	U	390	U	380	U	380	U	380	U	370	U
1,3-Dichlorobenzene		370	U	390	U	380	U	380	U	380	U	370	U
1,4-Dichlorobenzene		370	U	390	U	380	U	380	U	380	U	370	U
1,2-Dichlorobenzene		370	U	390	U	380	U	380	U	380	U	370	U
2-Methylphenol		370	U	390	U	380	U	380	U	380	U	370	U
2,2'-oxybis(1-Chloropropane)		370	U	390	U	380	U	380	U	380	U	370	U
3/4 Methylphenol		370	U	390	U	380	U	380	U	380	U	370	U
N-Nitroso-di-n-propylamine		370	U	390	U	380	U	380	U	380	U	370	U
Hexachloroethane		370	U	390	U	380	U	380	U	380	U	370	U
Nitrobenzene		370	U	390	U	380	U	380	U	380	U	370	U
Isophorone		370	U	390	U	380	U	380	U	380	U	370	U
2-Nitrophenol		370	U	390	U	380	U	380	U	380	U	370	U
2,4-Dimethylphenol		370	U	390	U	380	U	380	U	380	U	370	U
bis(2-Chloroethoxy)methane		370	U	390	U	380	U	380	U	380	U	370	U
2,4-Dichlorophenol		370	U	390	U	380	U	380	U	380	U	370	U
1,2,4-Trichlorobenzene		370	U	390	U	380	U	380	U	380	U	370	U
Naphthalene		370	U	390	U	380	U	380	U	380	U	370	U
4-Chloroaniline		370	U	390	U	380	U	380	U	380	U	370	U
Hexachlorobutadiene		370	U	390	U	380	U	380	U	380	U	370	U
4-Chloro-3-methylphenol		370	U	390	U	380	U	380	U	380	U	370	U
2-Methylnaphthalene		370	U	390	U	380	U	380	U	380	U	370	U
Hexachlorocyclopentadiene		370	U	390	U	380	U	380	U	380	U	370	U
2,4,6-Trichlorophenol		370	U	390	U	380	U	380	U	380	U	370	U
2,4,5-Trichlorophenol		930	U	970	U	940	U	950	U	960	U	920	U

*= Outside of EPA CLP QC limits.

000000011

Cust ID:	J16965		J16966		J16967		J16968		J16969		J16970	
RFW#:	005		006		007		008		009		010	
2-Chloronaphthalene	370	U	390	U	380	U	380	U	380	U	370	U
2-Nitroaniline	930	U	970	U	940	U	950	U	960	U	920	U
Dimethylphthalate	370	U	390	U	380	U	380	U	380	U	370	U
Acenaphthylene	370	U	390	U	380	U	380	U	380	U	370	U
2,6-Dinitrotoluene	370	U	390	U	380	U	380	U	380	U	370	U
3-Nitroaniline	930	U	970	U	940	U	950	U	960	U	920	U
Acenaphthene	370	U	390	U	380	U	380	U	380	U	370	U
2,4-Dinitrophenol	930	U	970	U	940	U	950	U	960	U	920	U
4-Nitrophenol	930	U	970	U	940	U	950	U	960	U	920	U
Dibenzofuran	370	U	390	U	380	U	380	U	380	U	370	U
2,4-Dinitrotoluene	370	U	390	U	380	U	380	U	380	U	370	U
Diethylphthalate	370	U	390	U	380	U	380	U	380	U	370	U
4-Chlorophenyl-phenylether	370	U	390	U	380	U	380	U	380	U	370	U
Fluorene	370	U	390	U	380	U	380	U	380	U	370	U
4-Nitroaniline	930	U	970	U	940	U	950	U	960	U	920	U
4,6-Dinitro-2-methylphenol	930	U	970	U	940	U	950	U	960	U	920	U
N-Nitrosodiphenylamine (1)	370	U	390	U	380	U	380	U	380	U	370	U
4-Bromophenyl-phenylether	370	U	390	U	380	U	380	U	380	U	370	U
Hexachlorobenzene	370	U	390	U	380	U	380	U	380	U	370	U
Pentachlorophenol	930	U	970	U	940	U	950	U	960	U	920	U
Phenanthrene	370	U	390	U	380	U	380	U	380	U	370	U
Anthracene	370	U	390	U	380	U	380	U	380	U	370	U
Carbazole	370	U	390	U	380	U	380	U	380	U	370	U
Di-n-butylphthalate	370	U	26	J	380	U	380	U	380	U	370	U
Fluoranthene	370	U	390	U	380	U	380	U	380	U	370	U
Pyrene	370	U	390	U	380	U	380	U	380	U	370	U
Butylbenzylphthalate	370	U	390	U	380	U	380	U	380	U	370	U
3,3'-Dichlorobenzidine	370	U	390	U	380	U	380	U	380	U	370	U
Benzo(a)anthracene	370	U	390	U	380	U	380	U	380	U	370	U
Chrysene	370	U	390	U	380	U	380	U	380	U	370	U
bis(2-Ethylhexyl)phthalate	110	JB	89	JB	410	B	150	JB	46	JB	58	JB
Di-n-octyl phthalate	370	U	390	U	380	U	380	U	380	U	370	U
Benzo(b)fluoranthene	370	U	390	U	380	U	380	U	380	U	370	U
Benzo(k)fluoranthene	370	U	390	U	380	U	380	U	380	U	370	U
Benzo(a)pyrene	370	U	390	U	380	U	380	U	380	U	370	U
Indeno(1,2,3-cd)pyrene	370	U	390	U	380	U	380	U	380	U	370	U
Dibenz(a,h)anthracene	370	U	390	U	380	U	380	U	380	U	370	U
Benzo(g,h,i)perylene	370	U	390	U	380	U	380	U	380	U	370	U

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

000000012

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 03/19/08 09:07

RFW Batch Number: 0802L600 Client: TNUHANFORD RC-032 K1120 Work Order: 11343606001 Page: 3a

	Cust ID:	J16970	J16971	SBLKSM	SBLKSM BS	SBLKTB	SBLKTB BS
Sample Information	RFW#:	010	011	08LE0080-MB1	08LE0080-MB1	08LE0112-MB1	08LE0112-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	2.00	1.00	1.00
	Units:	ug/Kg REPREP	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	47 %	47 %	67 %	59 %	52 %	52 %
	2-Fluorobiphenyl	51 %	54 %	65 %	57 %	54 %	65 %
	Terphenyl-d14	87 %	58 %	76 %	54 %	71 %	73 %
	Phenol-d5	49 %	47 %	58 %	55 %	52 %	62 %
	2-Fluorophenol	45 %	59 %	58 %	54 %	54 %	62 %
	2,4,6-Tribromophenol	42 %	40 %	83 %	54 %	27 %	37 %
Phenol		370 U	370 U	330 U	55 %	330 U	60 %
bis(2-Chloroethyl)ether		370 U	370 U	330 U	52 %	330 U	53 %
2-Chlorophenol		370 U	370 U	330 U	57 %	330 U	67 %
1,3-Dichlorobenzene		370 U	370 U	330 U	50 %	330 U	59 %
1,4-Dichlorobenzene		370 U	370 U	330 U	52 %	330 U	58 %
1,2-Dichlorobenzene		370 U	370 U	330 U	55 %	330 U	65 %
2-Methylphenol		370 U	370 U	330 U	57 * %	330 U	66 %
2,2'-oxybis(1-Chloropropane)		370 U	370 U	330 U	50 %	330 U	53 %
3/4 Methylphenol		370 U	370 U	330 U	61 %	330 U	67 %
N-Nitroso-di-n-propylamine		370 U	370 U	330 U	57 %	330 U	51 %
Hexachloroethane		370 U	370 U	330 U	57 %	330 U	58 %
Nitrobenzene		370 U	370 U	330 U	52 %	330 U	47 * %
Isophorone		370 U	370 U	330 U	65 %	330 U	54 * %
2-Nitrophenol		370 U	370 U	330 U	54 %	330 U	51 %
2,4-Dimethylphenol		370 U	370 U	330 U	58 %	330 U	49 * %
bis(2-Chloroethoxy)methane		370 U	370 U	330 U	55 %	330 U	50 %
2,4-Dichlorophenol		370 U	370 U	330 U	59 %	330 U	60 %
1,2,4-Trichlorobenzene		370 U	370 U	330 U	57 * %	330 U	53 * %
Naphthalene		370 U	370 U	330 U	54 %	330 U	50 %
4-Chloroaniline		370 U	370 U	330 U	45 %	330 U	39 %
Hexachlorobutadiene		370 U	370 U	330 U	64 %	330 U	60 %
4-Chloro-3-methylphenol		370 U	370 U	330 U	67 %	330 U	63 %
2-Methylnaphthalene		370 U	370 U	330 U	59 * %	330 U	57 * %
Hexachlorocyclopentadiene		370 U	370 U	330 U	71 %	330 U	60 %
2,4,6-Trichlorophenol		370 U	370 U	330 U	61 %	330 U	41 %
2,4,5-Trichlorophenol		920 U	940 U	830 U	65 %	830 U	65 %

*= Outside of EPA CLP QC limits.

000000013

Cust ID:	J16970		J16971		SBLKSM		SBLKSM BS		SBLKTB		SBLKTB BS	
RFW#:	010 REPREP		011		08LE0080-MB1		08LE0080-MB1		08LE0112-MB1		08LE0112-MB1	
2-Chloronaphthalene	370	U	370	U	330	U	54	%	330	U	60	%
2-Nitroaniline	920	U	940	U	830	U	58 *	%	830	U	69	%
Dimethylphthalate	370	U	370	U	330	U	58	%	330	U	69	%
Acenaphthylene	370	U	370	U	330	U	56 *	%	330	U	62	%
2,6-Dinitrotoluene	370	U	370	U	330	U	55 *	%	330	U	70	%
3-Nitroaniline	920	U	940	U	830	U	88	%	830	U	66	%
Acenaphthene	370	U	370	U	330	U	53	%	330	U	62	%
2,4-Dinitrophenol	920	U	940	U	830	U	23	%	830	U	18 *	%
4-Nitrophenol	920	U	940	U	830	U	50	%	830	U	74	%
Dibenzofuran	370	U	370	U	330	U	56 *	%	330	U	67	%
2,4-Dinitrotoluene	370	U	370	U	330	U	53 *	%	330	U	79	%
Diethylphthalate	370	U	370	U	330	U	59	%	330	U	71	%
4-Chlorophenyl-phenylether	370	U	370	U	330	U	55	%	330	U	68	%
Fluorene	370	U	370	U	330	U	46 *	%	330	U	66	%
4-Nitroaniline	920	U	940	U	830	U	62	%	830	U	76	%
4,6-Dinitro-2-methylphenol	920	U	940	U	830	U	48	%	830	U	26 *	%
N-Nitrosodiphenylamine (1)	370	U	370	U	330	U	66	%	330	U	55	%
4-Bromophenyl-phenylether	370	U	370	U	330	U	54	%	330	U	59	%
Hexachlorobenzene	370	U	370	U	330	U	73	%	330	U	75	%
Pentachlorophenol	920	U	940	U	830	U	59	%	830	U	38	%
Phenanthrene	370	U	370	U	330	U	57 *	%	330	U	68	%
Anthracene	370	U	370	U	330	U	59 *	%	330	U	72	%
Carbazole	370	U	370	U	330	U	76	%	330	U	74	%
Di-n-butylphthalate	370	U	370	U	330	U	62	%	330	U	69	%
Fluoranthene	370	U	370	U	330	U	59	%	330	U	78	%
Pyrene	370	U	370	U	330	U	53	%	330	U	65	%
Butylbenzylphthalate	370	U	370	U	330	U	61	%	330	U	62	%
3,3'-Dichlorobenzidine	370	U	370	U	330	U	60	%	330	U	58	%
Benzo(a)anthracene	370	U	370	U	330	U	57	%	330	U	68	%
Chrysene	370	U	370	U	330	U	59	%	330	U	70	%
bis(2-Ethylhexyl)phthalate	780	B	67	JB	250	J	55	%	250	J	179 *	%
Di-n-octyl phthalate	370	U	370	U	330	U	54	%	330	U	59	%
Benzo(b)fluoranthene	370	U	370	U	330	U	56 *	%	330	U	72	%
Benzo(k)fluoranthene	370	U	370	U	330	U	54	%	330	U	63	%
Benzo(a)pyrene	370	U	370	U	330	U	54	%	330	U	69	%
Indeno(1,2,3-cd)pyrene	370	U	370	U	330	U	55 *	%	330	U	65	%
Dibenz(a,h)anthracene	370	U	370	U	330	U	54	%	330	U	66	%
Benzo(g,h,i)perylene	370	U	370	U	330	U	59	%	330	U	67	%

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

000000014

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16961

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-001

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

Lab File ID: D022606

Level: (low/med) LOW

Date Received: 02/14/08

% Moisture: 10 decanted: (Y/N)__

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/26/08

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	6.960	200	JB
2.	ALKANE	7.335	200	JB
3.	ALDOL CONDENSATE	7.411	700	JAB
4.	UNKNOWN	7.574	300	JB
5.	UNKNOWN	7.901	100000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16962

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-002

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

Lab File ID: D022709

Level: (low/med) LOW

Date Received: 02/14/08

% Moisture: 8 decanted: (Y/N)__

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/27/08

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	4.605	500	J
2.	UNKNOWN	6.908	400	JB
3.	ALDOL CONDENSATE	7.330	400	JAB
4.	UNKNOWN	7.512	400	JB
5.	UNKNOWN	7.829	100000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16963

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-003

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

Lab File ID: D022710

Level: (low/med) LOW

Date Received: 02/14/08

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

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/27/08

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	6.903	400	JB
2.	ALDOL CONDENSATE	7.316	400	JAB
3.	ALKANE	7.373	300	J
4.	UNKNOWN	7.517	300	JB
5.	UNKNOWN	7.815	60000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16964

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-004

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

Lab File ID: N022807

Level: (low/med) LOW

Date Received: 02/14/08

% Moisture: 8 decanted: (Y/N) _

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/28/08

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.	ALDOL CONDENSATE	5.816	400	JA
2.	UNKNOWN	5.929	300	J
3.	UNKNOWN	6.069	300	JB
4.	UNKNOWN	6.435	80000	JB
5.	ALKANE	27.570	200	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16965

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-005

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

Lab File ID: D022706

Level: (low/med) LOW

Date Received: 02/14/08

% Moisture: 11 decanted: (Y/N)__

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/27/08

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	6.908	500	JB
2.	ALDOL CONDENSATE	7.340	200	JAB
3.	ALKANE	7.378	300	J
4.	UNKNOWN	7.522	300	JB
5.	UNKNOWN	7.848	100000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16966

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-006

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

Lab File ID: D022711

Level: (low/med) LOW

Date Received: 02/14/08

% Moisture: 14 decanted: (Y/N)__

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/27/08

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	6.897	200	JB
2.	ALDOL CONDENSATE	7.261	100	JAB
3.	ALDOL CONDENSATE	7.329	200	JAB
4.	UNKNOWN	7.501	200	JB
5.	UNKNOWN	7.837	80000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16967

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-007

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

Lab File ID: D022707

Level: (low/med) LOW

Date Received: 02/14/08

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

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/27/08

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	6.906	600	JB
2.	ALDOL CONDENSATE	7.338	300	JAB
3.	ALDOL CONDENSATE	7.386	300	J
4.	UNKNOWN	7.520	300	JB
5.	UNKNOWN	7.837	90000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16968

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-008

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

Lab File ID: D022712

Level: (low/med) LOW

Date Received: 02/14/08

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

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/27/08

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	6.883	500	JB
2.	ALDOL CONDENSATE	7.257	100	JAB
3.	ALDOL CONDENSATE	7.324	600	JB
4.	UNKNOWN	7.497	200	JB
5.	UNKNOWN	7.823	80000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16969

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-009

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

Lab File ID: D022713

Level: (low/med) LOW

Date Received: 02/14/08

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

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/27/08

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	6.874	400	JB
2.	ALDOL CONDENSATE	7.296	200	JAB
3.	UNKNOWN	7.488	200	JB
4.	UNKNOWN	7.795	60000	JB
5.	UNKNOWN	21.677	300	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16970

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-010

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

Lab File ID: N022806

Level: (low/med) LOW

Date Received: 02/14/08

% Moisture: 9 decanted: (Y/N)__

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/28/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.281	8000	JB

FORM 1 SV-TIC

RFW (v3.3)

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16970RE

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-010

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

Lab File ID: N031505

Level: (low/med) LOW

Date Received: 02/14/08

% Moisture: 9 decanted: (Y/N)__

Date Extracted: 03/04/08

Concentrated Extract Volume: 500(uL)

Date Analyzed: 03/15/08

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

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

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	5.317	1000	JAB
2.	ALDOL CONDENSATE	5.352	1000	JAB
3.	UNKNOWN	5.936	100000	JB
4.	ALDOL CONDENSATE	7.139	700	JAB
5.	UNKNOWN	20.055	800	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J16971

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 0802L600-011

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

Lab File ID: D022714

Level: (low/med) LOW

Date Received: 02/14/08

% Moisture: 11 decanted: (Y/N)__

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/27/08

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	6.887	600	JB
2.	ALDOL CONDENSATE	7.319	300	JAB
3.	ALKANE	7.367	200	J
4.	UNKNOWN	7.501	200	JB
5.	UNKNOWN	7.817	60000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKSM

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 08LE0080-MB1

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

Lab File ID: D022605

Level: (low/med) LOW

Date Received: 02/18/08

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

Date Extracted: 02/18/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 02/26/08

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	6.953	200	J
2.	ALDOL CONDENSATE	7.317	200	JA
3.	ALDOL CONDENSATE	7.394	600	JA
4.	UNKNOWN	7.567	200	J
5.	UNKNOWN	7.903	100000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKTB

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

Client: TNUHANFORD RC-032 K1120

Matrix: (soil/water) SOIL

Lab Sample ID: 08LE0112-MB1

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

Lab File ID: N031503

Level: (low/med) LOW

Date Received: 03/04/08

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

Date Extracted: 03/04/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 03/15/08

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.	ALDOL CONDENSATE	5.313	800	JA
2.	ALKANE	5.426	1000	J
3.	ALDOL CONDENSATE	5.531	1000	JA
4.	UNKNOWN	6.062	200000	J
5.	ALDOL CONDENSATE	7.169	800	JA

Lionville Laboratory Use Only

08021600

Custody Transfer Record/Lab Work Request

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TMC HANFORD

Final Proj. Sampling Date:

Project #: 11343-606-001-9995-06

Project Contact/Phone #:

Lionville Laboratory Project Manager: D. Johnson

PO: 50846 Del: STD TAT: 7 Day

Date Rec'd: 2-14-08 Date Due: 2-22-08 (WL 2-15-08)

	A	B	C	D	E	F	G
Refrigerator #	2	2	2	2	2	2	2
#/Type Container (Liquid / Solid)	1G	1G	1G	1G	2L		1P
Volume (Liquid / Solid)	60	60	125	60	125		125
Preservatives	—	—	—	—	—		—
ANALYSES REQUESTED	VOA	BNA	Pest/PCB	Herb	ST	TPH	Metal	CN	
	ORGANIC						INORG		
Lionville Laboratory Use Only		1625SH	OPCB		8081H		IPHC	Met①		ICR6

MATRIX CODES: S - Soil; E - Sediment; O - Solid; L - Sludge; W - Water; O - Oil; A - Air; D - Drum Solids; L - Drum Liquids; E - EP/TCLP; L - Leachate; W - Wipe; O - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	ST	TPH	Metal	CN		
001	J 16961			Soil	2-12-08	0900		X	X		X		X		X	
002	62					0910		X	X		X		X		X	
003	63					0925		X	X		X		X		X	
004	64					0945		X	X		X		X		X	
005	65					1000		X	X		X		X		X	
006	66					1010		X	X		X		X		X	
007	67					1025		X	X		X		X		X	
008	68					1200		X	X		X		X		X	
009	69					1215		X	X		X		X		X	
010	70					1230		X	X		X		X		X	

Special Instructions:

Met① = HSL + B, Mo, Si (NOTL)

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
Fed Ex	[illegible]	2/14/08	1440

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

000000029

Lionville Laboratory Use Only

18021600

Custody Transfer Record/Lab Work Request

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: [illegible]

Est. Final Proj. Sampling Date

Project #

Project Contact/Phone #

Lionville Laboratory Project Manager

QC Del TAT

Date Rec'd Date Due

		A	B		C		D	EF		G				
Refrigerator #		2	2		2		2	2		2				
#/Type Container	Liquid / Solid	16	16		16		16	28		16				
Volume	Liquid / Solid	125	60		125		125	125		125				
Preservatives		—	—		—		—	—		—				
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb		TOX TPH	INORG: Metal	CN					
Lionville Laboratory Use Only			0625H	OPCB		8260H		IPHC	Metals		ICP6			

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb		TOX TPH	Metal	CN					
S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, EP/TCLP Leachate, WI - Wipe, Other, Fish	011	7-1697			Soil	9/12/08	1230		X	X		X		X	X		X			

Special Instructions:

DATE/REVISIONS:

1.

2.

3.

4.

5.

6.

Relinquished by	Received by	Date	Time
FedEx	[illegible]	9/16/08	1410

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000030

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 1 of 1

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 Day		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification	SAF No.: RC-032	
Ice Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A080183	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

~~NA~~ TRE 2-13-08

Cool to 4°C

SAMPLE ANALYSIS												
Preservation				None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None			
Type of Container				P	P	aG	aG	aG	aG	P	P			
No. of Container(s)				2	1	1	1	1	1	1	1			
Volume				125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL			
				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta			
Sample No.	Matrix *	Sample Date	Sample Time											
J16961	SOIL	2-12-08	0900	X	X	X	X	X	X					1
J16962	SOIL		0910	X	X	X	X	X	X					2
J16963	SOIL		0925	X	X	X	X	X	X					3
J16964	SOIL		0945	X	X	X	X	X	X					4
J16965	SOIL		1000	X	X	X	X	X	X					5

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 2/12/08 1400	Received By/Stored In	Date/Time 1400 2-12-08
Relinquished By/Removed From	Date/Time 1545 2-12-08	Received By/Stored In 1060/2B	Date/Time 1545 2-12-08
Relinquished By/Removed From 1060 #2B 2-13-08	Date/Time 0900	Received By/Stored In JR Edmondson	Date/Time 2-13-08 0900
Relinquished By/Removed From J.R. Edmondson	Date/Time 2-13-08 1500	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From Fed Ex	Date/Time 2-14-08 1410	Received By/Stored In	Date/Time 2-14-08 1410
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 Custodian removed samples for shipping on 2-13-08

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

VCH-EE-011

0000000031

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 2 of 3

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification		SAF No.: RC-032
Ice Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / CONVILLE	Offsite Property No.: A080183		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

~~NA~~ TRE 2-13-08

Cool to 4°C

SAMPLE ANALYSIS												
Preservation				None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
Type of Container				P	P	aG	aG	aG	aG	P	P		
No. of Container(s)				2	1	1	1	1	1	1	1		
Volume				125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta		
Sample No.	Matrix *	Sample Date	Sample Time										
J16966	SOIL	2-12-08	1010	X	X	X	X	X	X				6
J16967	SOIL	2-12-08	1025	X	X	X	X	X	X				7
J16968	SOIL	2-12-08	1200	X	X	X	X	X	X				8
J16969	SOIL	2-12-08	1215	X	X	X	X	X	X				9
J16970	SOIL	2-12-08	1230	X	X	X	X	X	X				10

TRE 2-13-08

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
TWelch-Koelling	2-12-08 1400	TRDeBruin	2-12-08 1400
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
TRDeBruin	2-12-08 1545	1060 #2B	2-12-08 1545
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
1060 #2B	2-13-08 0900	TR Edmondson	2-13-08 0900
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
TR Edmondson	2-13-08 1500	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Fed Ex	2-14-08 1230		2-14-08 1410
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108 metastable)

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 Custodian removed samples for shipping on 2-13-08.

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

VCH-EE-011

000000032

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 1 of 1

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification	SAF No.: RC-032	
Ice Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: #080183	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

~~NA~~ TKE 2-13-08

Cool to 4°C

SAMPLE ANALYSIS													
Preservation				None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
Type of Container				P	P	aG	aG	aG	aG	P	P		
No. of Container(s)				2	1	1	1	1	1	1	1		
Volume				125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions	Gross Alpha: Gross Beta		
Sample No.	Matrix *	Sample Date	Sample Time										
J16971	SOIL	2-12-08	1230	X	X	X	X	X	X				10 D

N-7-08 JRD

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 2-12-08 1900	Received By/Stored In	Date/Time 1400 2-12-08
Relinquished By/Removed From	Date/Time 1545 2-12-08	Received By/Stored In 1060 #2B	Date/Time 1545 2-12-08
Relinquished By/Removed From 1060 #2B	Date/Time 2-13-08 0900	Received By/Stored In	Date/Time 2-13-08 0900
Relinquished By/Removed From WCH	Date/Time 2-13-08 1500	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From FED EX	Date/Time 2-14-08	Received By/Stored In	Date/Time 2-14-08 1410
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108 metastable)

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 custodian removed samples from ref #2B for shipping on 2-13-08

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

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

VCH-EE-011

0000000033

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD **Date:** 2-14-08

Project/EAF/SOW/Release #: RC-032

LvLI Batch #: 08021600 **Sample Custodian:** [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7914 9917 2013 7983 7406 7134
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 7-1 2.8	°C	Cooler # AFS-04-004 AFS-04-053
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
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 that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____

LvLI LIONVILLE LABORATORY INC

SR-002-B.doc

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032 K1120

RECEIVED MAR 2008

DATE RECEIVED: 02/14/08 LVL LOT # :

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16961	001	S	08LE0081	02/12/08	02/18/08	02/19/08
J16961	001 MS	S	08LE0081	02/12/08	02/18/08	02/19/08
J16961	001 MSD	S	08LE0081	02/12/08	02/18/08	02/19/08
J16962	002	S	08LE0081	02/12/08	02/18/08	02/19/08
J16963	003	S	08LE0081	02/12/08	02/18/08	02/19/08
J16964	004	S	08LE0081	02/12/08	02/18/08	02/19/08
J16965	005	S	08LE0081	02/12/08	02/18/08	02/19/08
J16966	006	S	08LE0081	02/12/08	02/18/08	02/20/08
J16967	007	S	08LE0081	02/12/08	02/18/08	02/19/08
J16968	008	S	08LE0081	02/12/08	02/18/08	02/20/08
J16969	009	S	08LE0081	02/12/08	02/18/08	02/20/08
J16970	010	S	08LE0081	02/12/08	02/18/08	02/20/08
J16971	011	S	08LE0081	02/12/08	02/18/08	02/20/08

LAB QC:

PBLKMU	MB1	S	08LE0081	N/A	02/18/08	02/19/08
PBLKMU	MB1 BS	S	08LE0081	N/A	02/18/08	02/19/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-032
LVL #: 0802L600
SDG/SAF # K1120 / RC-032

W.O. #: 11343-606-001-9999-00
Date Received: 02-14-2008

CHLORINATED PESTICIDES

Eleven (11) soil samples were collected on 02-12-2008.

The samples and their associated QC samples were extracted on 02-18-2008 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 02-19,20-2008. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8081A.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of the QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. The samples were extracted and analyzed within required holding time.

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

3. All surrogate recoveries were within acceptance criteria.

4. Two (2) of twenty (20) blank spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.

5. All matrix spike recoveries were within acceptance criteria.

6. Samples J16961, J16961 MS, J16961 MSD, J16962, J16963, J16964, J16965, J16966, J16967, J16968, J16969, J16970, J16971 required a 4-fold instrument dilution due to the matrix.

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.

r:\group\data\2008\pest\tnu\0802-600ks2.pst.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 15 pages.

LvLI
LIONVILLE LABORATORY INC.

9. LvLI is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

2/25/08
Date

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

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 08GC024

Initiator: CAL
Date: 02-20-08
Client: TNU

Batch: 08021600
Samples: BS
Method: SW846/MCAWW/CLP/

Parameter: Pest
Matrix: SOIL
Prep Batch: 08LE0081

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)

Methoxychlor & Endrin Ketone Recoveries are low in BS
Okay in MS/MSD

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:
Both analytes at 76% (Low limit = 77%)
Results on second column are good for BS (Methoxy = 90%, End Ket = 95%). All sample results are ND < RL.

[signature] 2/25/08

4. Project Manager Instructions...signature/date: [signature] 2/25/08

__ 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: KDS 2-22-08

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 Project Mgr: Stone/Johnson	__	__ GC/LC: Kiger
__	__ Data Management: Stilwell	__	__ MS: Rychlak/Daley
__	__ Sample Prep: Beegle/Kiger	__	__ Log-In: Perry
		__	__ Admin: _____
		__	__ Other: _____

QA-105-A-0805

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: 02/20/08 11:57

RFW Batch Number: 0802L600 Client: TNU-HANFORD RC-032 Work Order: 11343606001 Page: 1

	Cust ID:	J16961		J16961		J16961		J16962		J16963		J16964	
Sample Information	RFW#:	001		001 MS		001 MSD		002		003		004	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	4.00		4.00		4.00		4.00		4.00		4.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate:	Tetrachloro-m-xylene	98	%	93	%	92	%	105	%	90	%	99	%
	Decachlorobiphenyl	78	%	70	%	70	%	91	%	72	%	89	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		1.5	U	90	%	92	%	1.5	U	1.4	U	1.5	U
gamma-BHC (Lindane)		1.5	U	96	%	98	%	1.5	U	1.4	U	1.5	U
Beta-BHC		1.5	U	104	%	106	%	1.5	U	3.9	J	1.5	U
Heptachlor		1.5	U	102	%	106	%	1.5	U	1.4	U	1.5	U
Delta-BHC		1.5	U	88	%	89	%	1.5	U	1.4	U	1.5	U
Aldrin		1.5	U	96	%	100	%	1.5	U	1.4	U	1.5	U
Heptachlor epoxide		1.5	U	105	%	110	%	1.5	U	1.4	U	1.5	U
gamma-Chlordane		1.5	U	105	%	109	%	1.5	U	1.4	U	1.5	U
Endosulfan I		1.5	U	106	%	112	%	1.5	U	1.4	U	1.5	U
alpha-Chlordane		1.5	U	105	%	111	%	1.5	U	1.4	U	1.5	U
4,4'-DDE		1.5	U	108	%	115	%	1.5	U	1.4	U	1.5	U
Dieldrin		1.5	U	103	%	108	%	1.5	U	1.4	U	1.5	U
Endrin		1.5	U	106	%	112	%	1.5	U	1.4	U	1.5	U
4,4'-DDD		1.5	U	106	%	110	%	1.5	U	1.4	U	1.5	U
Endosulfan II		1.5	U	104	%	109	%	1.5	U	1.4	U	1.5	U
4,4'-DDT		1.5	U	101	%	104	%	1.5	U	1.4	U	1.5	U
Endrin aldehyde		1.5	U	104	%	106	%	1.5	U	1.4	U	1.5	U
Endosulfan sulfate		1.5	U	95	%	100	%	1.5	U	1.4	U	1.5	U
Methoxychlor		1.5	U	92	%	96	%	1.5	U	1.4	U	1.5	U
Endrin ketone		1.5	U	89	%	94	%	1.5	U	1.4	U	1.5	U
Toxaphene		15	U	15	U	15	U	15	U	14	U	15	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

000000006

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 02/20/08 11:57

RFW Batch Number: 0802L600 Client: TNU-HANFORD RC-032 Work Order: 11343606001 Page: 2

	Cust ID:	J16965		J16966		J16967		J16968		J16969		J16970	
Sample Information	RFW#:	005		006		007		008		009		010	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	4.00		4.00		4.00		4.00		4.00		4.00	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate:	Tetrachloro-m-xylene	104	%	104	%	93	%	103	%	95	%	105	%
	Decachlorobiphenyl	91	%	81	%	83	%	95	%	74	%	95	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
gamma-BHC (Lindane)		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Beta-BHC		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Heptachlor		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Delta-BHC		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Aldrin		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Heptachlor epoxide		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
gamma-Chlordane		1.5	U	1.5	U	1.5	U	1.5	U	2.6	J	1.5	U
Endosulfan I		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
alpha-Chlordane		1.5	U	1.5	U	1.5	U	1.5	U	2.7	J	1.5	U
4,4'-DDE		1.5	U	1.5	U	1.5	U	1.5	U	2.9	J	1.5	U
Dieldrin		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Endrin		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
4,4'-DDD		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Endosulfan II		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
4,4'-DDT		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Endrin aldehyde		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Endosulfan sulfate		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Methoxychlor		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Endrin ketone		1.5	U	2.6	J.I	1.5	U	1.5	U	1.5	U	1.5	U
Toxaphene		15	U	15	U	15	U	15	U	15	U	15	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

000000007

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 02/20/08 11:57

RFW Batch Number: 0802L600 Client: TNU-HANFORD RC-032 Work Order: 11343606001 Page: 3

	Cust ID:	J16971	PBLKMU	PBLKMU BS
Sample Information	RFW#:	011	08LE0081-MB1	08LE0081-MB1
	Matrix:	SOIL	SOIL	SOIL
	D.F.:	4.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG

Surrogate:	Tetrachloro-m-xylene	89	%	93	%	82	%
	Decachlorobiphenyl	81	%	77	%	60	%
Alpha-BHC		1.5	U	0.33	U	95	%
gamma-BHC (Lindane)		1.5	U	0.33	U	95	%
Beta-BHC		1.5	U	0.33	U	94	%
Heptachlor		1.5	U	0.33	U	91	%
Delta-BHC		1.5	U	0.33	U	92	%
Aldrin		1.5	U	0.33	U	100	%
Heptachlor epoxide		1.5	U	0.33	U	100	%
gamma-Chlordane		1.5	U	0.33	U	104	%
Endosulfan I		1.5	U	0.33	U	101	%
alpha-Chlordane		1.5	U	0.33	U	102	%
4,4'-DDE		1.5	U	0.33	U	108	%
Dieldrin		1.5	U	0.33	U	101	%
Endrin		1.5	U	0.33	U	95	%
4,4'-DDD		1.5	U	0.33	U	103	%
Endosulfan II		1.5	U	0.33	U	97	%
4,4'-DDT		1.5	U	0.33	U	93	%
Endrin aldehyde		1.5	U	0.33	U	86	%
Endosulfan sulfate		1.5	U	0.33	U	87	%
Methoxychlor		1.5	U	0.33	U	76 *	%
Endrin ketone		1.5	U	0.33	U	76 *	%
Toxaphene		15	U	3.3	U	3.3	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

000000008

Lionville Laboratory, Inc.

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 02/18/08 Extraction Batch No: 08LE0081 Analyst: MF Method: **** 8 0 4 3 5 4 0

Test: 0608 Cleanup Date: Analyst: Client: TNU-HANFORD RC-032

LIMS Report Date: 02/19/08 Solvent: DCM/ACETONE,HEXANE Adsorbent:

Sample No:	Client Name Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0802L600-	TNU-HANFORD RC-032										
001 H	J16961		30.0	1.0		10		1.0	N	90.19	369.6
001 HS	J16961		30.0	1.0	1.0	10		1.0	N	90.19	369.6
001 HT	J16961		30.0	1.0	1.0	10		1.0	N	90.19	369.6
002 H	J16962		30.0	1.0		10		1.0	N	91.81	363.1
003 H	J16963		30.0	1.0		10		1.0	N	92.97	358.5
004 H	J16964		30.0	1.0		10		1.0	N	91.63	363.8
005 H	J16965		30.0	1.0		10		1.0	N	89.48	372.5
006 H	J16966		30.0	1.0		10		1.0	N	86.23	386.6
007 H	J16967		30.0	1.0		10		1.0	N	88.49	376.7
008 H	J16968		30.0	1.0		10		1.0	N	87.51	380.9
009 H	J16969		30.0	1.0		10		1.0	N	86.71	384.4
010 H	J16970		30.0	1.0		10		1.0	N	90.95	366.5
011 H	J16971		30.0	1.0		10		1.0	N	89.11	374.1
08LE0081-MB1 H	PBLKMU		30.0	1.0		10		1.0	N	100.00	333.3
08LE0081-MB1 HS	PBLKMU		30.0	1.0	1.0	10		1.0	N	100.00	333.3

Comments:
Surrogate: 250 UL OL PSURR 89916404
Spike: 250 UL FULL LIST PEST SPIKE 89915509

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
all	[illegible]	2/19/08 1630	[illegible]	2/19/08 15:30	[illegible]

000000009

Lionville Laboratory Use Only

08021600

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU HANFORD

Date Final Proj. Sampling Date

Project #: 1/343 60600 / 4 4 2 0 6

Project Contact/Phone #

Lionville Laboratory Project Manager: D. Johnson

PO: 500846 Del: STD TAT: 7 Day

Date Rec'd: 2-14-08 Date Due: 2-22-08

	A	B	C	D	E/F	G
Refrigerator #	2	2	2	2	2	2
#/Type Container (Liquid / Solid)	1G	1G	1G	1G	2L	1P
Volume (Liquid / Solid)	40	60	120	120	1LT	8oz
Preservatives						
ANALYSES REQUESTED	VOA	BNA	Pest/PCB	Herb	TOT TPH	Metal / CN
	ORGANIC				INORG	
Lionville Laboratory Use Only		0625H	0PCB		0608H	IPHC	Meth①	ICR6

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected
001	J 169 61			Soil	2-12-08	0900
002	62					0910
003	63					0925
004	64					0945
005	65					1000
006	66					1010
007	67					1025
008	68					200
009	69					1215
010	70					1230

MATRIX CODES: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP Leachate, Wipe, Other, Fish

Special Instructions:

Meth① = HSL + B, Mo, Si (NOTL)

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
Fed Ex	[illegible]	2/14/08	1440

Relinquished by	Received by	Date	Time

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

000000010

onville Laboratory Use Only

18024600

Custody Transfer Record/Lab Work Request

LVLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

lent: [illegible]

Final Proj. Sampling Date

oject #

oject Contact/Phone #

onville Laboratory Project Manager

Del TAT

te Rec'd Date Due

		A	B		C		D	EF		G					
Refrigerator #		2	2		2		2	2		2					
#/Type Container	Liquid														
	Solid	1G	1G		1G		1G	2P		1P					
Volume	Liquid														
	Solid	125	100		125		125	125		125					
Preservatives		—	—		—		—	—		—					
ANALYSES REQUESTED →		ORGANIC						INORG							
		VOA	BNA	Pest/PCB	Herb				Metal	CN					
					8151		8015 TPH				Cr6+				
		Lionville Laboratory Use Only													
			8625H	8082B		8608H		IPHC	Metals		ICP6				

MATRIX CODES: Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP Leachate, Wipe, Other, Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected														
	011	7-169-71			Soil	9/28/98	1230		X	X		X		X	X		X				

pecial Instructions:

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	9/28/98	1410

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 1 of 1

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 Day		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification	SAF No.: RC-032	
Ice Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A080183	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NT TRE 2-13-08

Cool to 4°C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None			
Type of Container	P	P	aG	aG	aG	aG	P	P			
No. of Container(s)	2	1	1	1	1	1	1	1			
Volume	125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta			
Sample No. / Matrix * / Sample Date / Sample Time											
116961 / SOIL / 2-12-08 / 0900	X	X	X	X	X	X					1
116962 / SOIL / / 0910	X	X	X	X	X	X					2
116963 / SOIL / / 0925	X	X	X	X	X	X					3
116964 / SOIL / / 0945	X	X	X	X	X	X					4
116965 / SOIL / / 1000	X	X	X	X	X	X					5

7-08

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	2/12/08 1400	[illegible]	2-12-08 1400
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JR DeBrigne	2-12-08 1545	1060/2B	2-12-08 1545
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
1060 #2B	2-13-08 0900	JR Edmondson	2-13-08 0900
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
L.R. Edmondson	2-13-08 1500	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Fed Ex	2-14-08 1410	[illegible]	2-14-08 1410
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 custodian removed samples for shipping on 2-13-08

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

/CH-EE-011

2100000012

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 2 of 3

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification	SAF No.: RC-032	
Ice Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / CLONVILLE	Offsite Property No.: A080183	Bill of Lading/Air Bill No.: STEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

MTRF 2-13-08

Cool to 4°C

SAMPLE ANALYSIS												
Preservation				None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	
Type of Container				P	P	aG	aG	aG	aG	P	P	
No. of Container(s)				2	1	1	1	1	1	1	1	
Volume				125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL	
				See item (1) in Special Instructions	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions	Gross Alpha; Gross Beta	
Sample No.	Matrix *	Sample Date	Sample Time									
16966	SOIL	2-12-08	1010	X	X	X	X	X	X			6
16967	SOIL	2-12-08	1025	X	X	X	X	X	X			7
16968	SOIL	2-12-08	1200	X	X	X	X	X	X			8
16969	SOIL	2-12-08	1215	X	X	X	X	X	X			9
16970	SOIL	2-12-08	1230	X	X	X	X	X	X			10

2-7-08

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	2-12-08 1400	TEDeBuigne [illegible]	1400 2-12-08
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
TEDeBuigne [illegible]	2-12-08 1545	1060 #28	1545 2-12-08
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
1060 #28	2-13-08 0900	[illegible]	2-13-08 0900
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	2-13-08 1500	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Fed Ex	2-14-08 1230	[illegible]	2-14-08 1410
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 1060 ref #28. 1060 Custodian removed samples for shipping on 2-13-08.

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

CH-EE-011

00000013

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 1 of 1

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman — Telephone No.: 528-6409	Project Coordinator: KESSNER, JH	Price Code: 8B — Data Turnaround: 7 DAY
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification	SAF No.: RC-032	
Ice Chest No.: AF5-04-053	Field Logbook No.: EFL-1174-4 — COA: R10F262000	Method of Shipment: FED EX	
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A080 183	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

~~NA~~ TRE 2-13-08

Cool to 4°C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
Type of Container	P	P	aG	aG	aG	aG	P	P		
No. of Container(s)	2	1	1	1	1	1	1	1		
Volume	125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions	Gross Alpha; Gross Beta		

Sample No.	Matrix *	Sample Date	Sample Time										
116971	SOIL	2-12-08	1230	X	X	X	X	X	X	JRD			10 D

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	2-12-08 1400	JRD-Bridge [illegible]	2-12-08 1400
JRD-Bridge [illegible]	2-12-08 1545	1060 #2B	2-12-08 1545
1060 #2B	2-13-08 0900	[illegible]	2-13-08 0900
[illegible] WCH	2-13-08 1500	FED EX	
FED EX	2-14-08	[illegible]	2-14-08 1410

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108 metastable)

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 custodian removed samples from ref#2B for shipping on 2-13-08

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

ICH-EE-011

000000014

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD
Project/EAF/SOW/Release #: RC032

Date: 2-14-08

LvLI Batch #: 08021600

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7914 9917 2013 7983 7406 7134
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 7-1 2-8	°C	Cooler # AFS-04-004 AFS-04-053
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
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 that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____

LvLI LIONVILLE LABORATORY INC.

SR-002-B.doc

Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032 1K 1120

RECEIVED MAR 2008

DATE RECEIVED: 02/14/08 LVL LOT # :08[illegible]600

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16961	001	S	08LE0081	02/12/08	02/18/08	02/19/08
J16961	001 MS	S	08LE0081	02/12/08	02/18/08	02/19/08
J16961	001 MSD	S	08LE0081	02/12/08	02/18/08	02/19/08
J16962	002	S	08LE0081	02/12/08	02/18/08	02/19/08
J16963	003	S	08LE0081	02/12/08	02/18/08	02/19/08
J16964	004	S	08LE0081	02/12/08	02/18/08	02/19/08
J16965	005	S	08LE0081	02/12/08	02/18/08	02/19/08
J16966	006	S	08LE0081	02/12/08	02/18/08	02/19/08
J16967	007	S	08LE0081	02/12/08	02/18/08	02/19/08
J16968	008	S	08LE0081	02/12/08	02/18/08	02/19/08
J16969	009	S	08LE0081	02/12/08	02/18/08	02/20/08
J16970	010	S	08LE0081	02/12/08	02/18/08	02/20/08
J16971	011	S	08LE0081	02/12/08	02/18/08	02/20/08

LAB QC:

PBLKMU	MB1	S	08LE0081	N/A	02/18/08	02/19/08
PBLKMU	MB1 BS	S	08LE0081	N/A	02/18/08	02/19/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-032
LVL #: 0802L600
SDG/SAF # K1120 / RC-032

W.O. #: 11343-606-001-9999-00
Date Received: 02-14-2008

PCB

Eleven (11) soil samples were collected on 02-12-2008.

The samples and their associated QC samples were extracted on 02-18-2008 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 02-19,20-2008. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8082.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of the QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. The samples were extracted and analyzed within required holding time.

2. The samples and their associated QC samples received Copper-Sulfur and Sulfuric Acid cleanups according to Lionville Laboratory SOPs based on SW846 methods 3660A and 3665A respectively.

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

4. One (1) of thirty (30) surrogate recoveries was outside acceptance criteria. However, the surrogate recovery acceptance criteria were met (i.e. no more than one outlier per sample).

5. The 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.

r:\group\data\2008\pest\tnu\0802-600ks2.pcb.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 13 pages.

LIONVILLE LABORATORY INC.

9. LvLI is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

2/25/08
Date

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: 02/20/08 12:09

RFW Batch Number: 0802L600 Client: TNU-HANFORD RC-032 Work Order: 11343606001 Page: 1

	Cust ID:	J16961	J16961	J16961	J16962	J16963	J16964
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	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	113 %	114 %	102 %	117 %	110 %	107 %
	Decachlorobiphenyl	98 %	100 %	96 %	102 %	99 %	96 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		15 U	95 %	95 %	15 U	14 U	15 U
Aroclor-1221		15 U	15 U	15 U	15 U	14 U	15 U
Aroclor-1232		15 U	15 U	15 U	15 U	14 U	15 U
Aroclor-1242		15 U	15 U	15 U	15 U	14 U	15 U
Aroclor-1248		15 U	15 U	15 U	15 U	14 U	15 U
Aroclor-1254		15 U	15 U	15 U	15 U	14 U	15 U
Aroclor-1260		15 U	102 %	102 %	15 U	14 U	15 U

	Cust ID:	J16965	J16966	J16967	J16968	J16969	J16970
Sample Information	RFW#:	005	006	007	008	009	010
	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	119 %	176 * %	113 %	135 %	112 %	118 %
	Decachlorobiphenyl	102 %	138 %	93 %	116 %	97 %	102 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		15 U	15 U	15 U	15 U	15 U	15 U
Aroclor-1221		15 U	15 U	15 U	15 U	15 U	15 U
Aroclor-1232		15 U	15 U	15 U	15 U	15 U	15 U
Aroclor-1242		15 U	15 U	15 U	15 U	15 U	15 U
Aroclor-1248		15 U	15 U	15 U	15 U	15 U	15 U
Aroclor-1254		15 U	23 .I	15 U	15 U	15 U	15 U
Aroclor-1260		15 U	19	15 U	15 U	15 U	15 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

0000000005

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 02/20/08 12:09

RFW Batch Number: 0802L600 Client: TNU-HANFORD RC-032 Work Order: 11343606001 Page: 2

	Cust ID:	J16971	PBLKMU	PBLKMU BS
Sample Information	RFW#:	011	08LE0081-MB1	08LE0081-MB1
	Matrix:	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG
Surrogate: Tetrachloro-m-xylene		109 %	109 %	114 %
Decachlorobiphenyl		102 %	92 %	96 %
Aroclor-1016		15 U	13 U	97 %
Aroclor-1221		15 U	13 U	13 U
Aroclor-1232		15 U	13 U	13 U
Aroclor-1242		15 U	13 U	13 U
Aroclor-1248		15 U	13 U	13 U
Aroclor-1254		15 U	13 U	13 U
Aroclor-1260		15 U	13 U	101 %

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

0000000006

Inc.

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 02/18/08 | Extraction Batch No: 08LE0081 | Analyst: MF | Method: **** 8081/3540

Test: OPCB | Cleanup Date: 02/19/08 | Analyst: MF | Client: TNU-HANFORD RC-032

LIMS Report Date: 02/19/08 | Solvent: DCM/ACETONE,HEXANE | Adsorbent: H2SO4

Sample No:	Client Name / Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0802L600-	TNU-HANFORD RC-032										
001	J16961		30.0	1.0		10		1.0	N	90.19	369.6
001 -S	J16961		30.0	1.0	1.0	10		1.0	N	90.19	369.6
001 -T	J16961		30.0	1.0	1.0	10		1.0	N	90.19	369.6
002	J16962		30.0	1.0		10		1.0	N	91.81	363.1
003	J16963		30.0	1.0		10		1.0	N	92.97	358.5
004	J16964		30.0	1.0		10		1.0	N	91.63	363.8
005	J16965		30.0	1.0		10		1.0	N	89.48	372.5
006	J16966		30.0	1.0		10		1.0	N	86.23	386.6
007	J16967		30.0	1.0		10		1.0	N	88.49	376.7
008	J16968		30.0	1.0		10		1.0	N	87.51	380.9
009	J16969		30.0	1.0		10		1.0	N	86.71	384.4
010	J16970		30.0	1.0		10		1.0	N	90.95	366.5
011	J16971		30.0	1.0		10		1.0	N	89.11	374.1
08LE0081-MB1	PBLKMU		30.0	1.0		10		1.0	N	100.00	333.3
08LE0081-MB1 -S	PBLKMU		30.0	1.0	1.0	10		1.0	N	100.00	333.3

Comments: 006 SILICA AND ACID CLEAN
Surrogate: 250 UL OXM PSURR 89916404
Spike: 250 UL AR1660 89916602

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
all	[illegible]	2/19/08 1530	[illegible]	2/19/08 15:30	GC

Lab Use Only

08021600

Custody Transfer Record/Lab Work Request

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TMC HANFORD
Est. Final Proj. Sampling Date:
Project #: 1343-606-001-9966-00
Project Contact/Phone #:
Lionville Laboratory Project Manager: D Johnson
PO: 500846 Del: STD TAT: 7 Day

Date Rec'd: 2-14-08 Date Due: 2-22-08 (WL 2-15-08)

		A	B	C	D	E	F	G
Refrigerator #		2	2	2	2	2		2
#/Type Container	Liquid / Solid	1G	1G	1G	1G	2P		1P
Volume	Liquid / Solid	250	60	125	120	125		250
Preservatives		—	—	—	—	—		—
ANALYSES REQUESTED	ORGANIC: VOA							
	ORGANIC: BNA							
	ORGANIC: Pest/PCB							
	ORGANIC: Herb							
	TOT TPH							
	INORG: Metal							
	INORG: CN							
Lionville Laboratory Use Only			0625H	0PCB		0608H	IPHC	Met(1)		ICR6

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0625H	0PCB	0608H	IPHC	Met(1)	ICR6
001	J 16961			Sol	2-12-08	0900	X	X	X	X	X	X
002	62					0910	X	X	X	X	X	X
003	63					0925	X	X	X	X	X	X
004	64					0945	X	X	X	X	X	X
005	65					1000	X	X	X	X	X	X
006	66					1010	X	X	X	X	X	X
007	67					1025	X	X	X	X	X	X
008	68					1200	X	X	X	X	X	X
009	69					1215	X	X	X	X	X	X
010	70					1230	X	X	X	X	X	X

Special Instructions:
met(1) = HSL + B, Mo, Sn
(NOTL)

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	2/14/08	1410

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

000000000

Custody Transfer Record/Lab Work Request

LVLI

18021600

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: [illegible]

Est. Final Proj. Sampling Date:

Project #:

Project Contact/Phone #:

Lionville Laboratory Project Manager:

QC: Del TAT

Date Rec'd: Date Due:

	A	B		C		D	EF		G
Refrigerator #	2	2		2		2	2		2
#/Type Container (Liquid/Solid)	16	16		16		16	2P		1P
Volume (Liquid/Solid)	125	60		125		125	125		125
Preservatives	—	—		—		—	—		—
ANALYSES REQUESTED				RSK		TOC TPH			SO4
ORGANIC							INORG		
	VOA	BNA	Pest/PCB	Herb			Metal	CN	
Lionville Laboratory Use Only		0625H	OPCB		0608H		IPHC	MetHG	ICP6

MATRIX CODES	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected													
SO - Soil SE - Sediment SO - Solid SU - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids EP/TCLP Leachate WI - Wipe Other Fish	011	16971			Soil	9/12/08	1230		X	X		X		X	X		X			

Special Instructions:

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
FedEx	[illegible]	9/16/08	1410

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000009

CUSTODY/SAMPLE ANALYSIS REQUEST

RC-032-111 Page 1 of 1

Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: RESSNER, JH
Price Code: 8B	Date Turnaround: 7 Day		
Sampling Location: 100-F-26:9 SP Verification	SAF No.: RC-032		
Ice Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES CLIONVILLE	Offsite Property No.: A080183		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NOT TRUE 2-13-08

Cool to 4°C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None			
Type of Container	P	P	aG	aG	aG	aG	P	P			
No. of Container(s)	2	1	1	1	1	1	1	1			
Volume	125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta			
Sample No. / Matrix * / Sample Date / Sample Time											
J16961 / SOIL / 2-12-08 / 0900	X	X	X	X	X	X					1
J16962 / SOIL / 0910	X	X	X	X	X	X					2
J16963 / SOIL / 0925	X	X	X	X	X	X					3
J16964 / SOIL / 0945	X	X	X	X	X	X					4
J16965 / SOIL / 1000	X	X	X	X	X	X					5

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	2/12/08 1400	[illegible]	1400 2-12-08
[illegible]	1545 2-12-08	1060 #2B	1545 2-12-08
1060 #2B	2-13-08 0900	[illegible]	2-13-08 0900
[illegible]	2-13-08 1500	FED EX	
FED EX	2-14-08 1410	[illegible]	2-14-08 1410

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 custodian removed samples for shipping on 2-13-08

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

H-EE-011

0000000010

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 2 of 3

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification	SAF No.: RC-032	
Ice Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / (CLONVILLE)	Offsite Property No.: A080183	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

~~NA~~ TRA 2-13-08

Cool to 4°C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None			
Type of Container	P	P	aG	aG	aG	aG	P	P			
No. of Container(s)	2	1	1	1	1	1	1	1			
Volume	125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta			
Sample No.	Matrix *	Sample Date	Sample Time								
J16966	SOIL	2-12-08	1010	X	X	X	X	X	X		6
J16967	SOIL	2-12-08	1025	X	X	X	X	X	X		7
J16968	SOIL	2-12-08	1200	X	X	X	X	X	X		8
J16969	SOIL	2-12-08	1215	X	X	X	X	X	X		9
J16970	SOIL	2-12-08	1230	X	X	X	X	X	X		10

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: T. Welch-Koelling	Date/Time: 2-12-08 1400	Received By/Stored In: TR DeBruyne	Date/Time: 1400 2-12-08
Relinquished By/Removed From: TR DeBruyne	Date/Time: 1545 2-12-08	Received By/Stored In: 1060 #28	Date/Time: 1545 2-12-08
Relinquished By/Removed From: 1060 #28	Date/Time: 2-13-08 0900	Received By/Stored In: TR Edmondson	Date/Time: 2-13-08 0900
Relinquished By/Removed From: TR Edmondson	Date/Time: 2-13-08 1500	Received By/Stored In: FED EX	Date/Time:
Relinquished By/Removed From: FED EX	Date/Time: 2-14-08 1230	Received By/Stored In:	Date/Time: 2-14-08 1410
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108 metastable)

Sampler unavailable to relinquish samples from 1060 ref #28. 1060 Custodian removed samples for shipping on 2-13-08.

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

VCH-EE-011

000000011

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-032-191

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 DAY		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification		SAF No.: RC-032
Ice Chest No.: AF5-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A080183		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

~~NA~~ TRE 2-13-08

Cool to 4°C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
Type of Container	P	P	aG	aG	aG	aG	P	P		
No. of Container(s)	2	1	1	1	1	1	1	1		
Volume	125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions	Gross Alpha; Gross Beta		

Sample No.	Matrix *	Sample Date	Sample Time										
J16971	SOIL	2-12-08	1230	X	X	X	X	X	X				10 D

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	2-12-08 1900	JR DeRuiter	1400 2-12-08
JR DeRuiter	2-12-08 1545	1060 #2B	1545 2-12-08
1060 #2B	2-13-08 0900	JR Edmundson	2-13-08 0900
JR Edmundson WEH	2-13-08 1500	FED EX	
FED EX	2-14-08	[illegible]	2-14-08 1410

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 custodian removed samples from ref#2B for shipping on 2-13-08

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

WCH-EE-011

000000012

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD
Project/EAF/SOW/Release #: RC-032

Date: 2-14-08

LvLI Batch #: 0802L600

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7914 9917 2013 7983 7406 7134
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 7-1 2-8	°C	Cooler # AFS-04-004 AFS-04-053
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
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 that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____

LvLI LIONVILLE LABORATORY INC.

SR-002-B.doc

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

RECEIVED MAR 2008

DATE RECEIVED: 02/14/08 LVL LOT # :0802L6

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16961						
SILVER, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
SILVER, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
SILVER, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
ALUMINUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/20/08
ALUMINUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/20/08
ALUMINUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/21/08
ARSENIC, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
ARSENIC, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
ARSENIC, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
BORON, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
BARIUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
BERYLLIUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
BERYLLIUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
BERYLLIUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
CALCIUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
CADMIUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
CADMIUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
CADMIUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
COBALT, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
CHROMIUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
COPPER, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/20/08
COPPER, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/20/08
COPPER, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/21/08
IRON, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/20/08
IRON, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/20/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/21/08
MERCURY, TOTAL	001	S	08C0033	02/12/08	02/19/08	02/20/08
MERCURY, TOTAL	001 REP	S	08C0033	02/12/08	02/19/08	02/20/08
MERCURY, TOTAL	001 MS	S	08C0033	02/12/08	02/19/08	02/20/08
POTASSIUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/20/08
POTASSIUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/20/08
POTASSIUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/21/08
MAGNESIUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
MAGNESIUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
MAGNESIUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
MANGANESE, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
MANGANESE, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
MANGANESE, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
MOLYBDENUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
SODIUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/20/08
SODIUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/20/08
SODIUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/21/08
NICKEL, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
NICKEL, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
NICKEL, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
LEAD, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
ANTIMONY, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
SELENIUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
SILICON, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
VANADIUM, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
ZINC, TOTAL	001	S	08L0072	02/12/08	02/18/08	02/19/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ZINC, TOTAL	001 REP	S	08L0072	02/12/08	02/18/08	02/19/08
ZINC, TOTAL	001 MS	S	08L0074	02/12/08	02/19/08	02/22/08
J16962						
SILVER, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
ALUMINUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/20/08
ARSENIC, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
BERYLLIUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
CADMIUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
COPPER, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/20/08
IRON, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/20/08
MERCURY, TOTAL	002	S	08C0033	02/12/08	02/19/08	02/20/08
POTASSIUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/20/08
MAGNESIUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
MANGANESE, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
SODIUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/20/08
NICKEL, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
ZINC, TOTAL	002	S	08L0072	02/12/08	02/18/08	02/19/08
J16963						
SILVER, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
ALUMINUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/20/08
ARSENIC, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BERYLLIUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
CADMIUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
COPPER, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/20/08
IRON, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/20/08
MERCURY, TOTAL	003	S	08C0033	02/12/08	02/19/08	02/20/08
POTASSIUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/20/08
MAGNESIUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
MANGANESE, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
SODIUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/20/08
NICKEL, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
ZINC, TOTAL	003	S	08L0072	02/12/08	02/18/08	02/19/08
J16964						
SILVER, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
ALUMINUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/20/08
ARSENIC, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
BERYLLIUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
CADMIUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
COPPER, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/20/08
IRON, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/20/08
MERCURY, TOTAL	004	S	08C0033	02/12/08	02/19/08	02/20/08
POTASSIUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/20/08
MAGNESIUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MANGANESE, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
SODIUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/20/08
NICKEL, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
ZINC, TOTAL	004	S	08L0072	02/12/08	02/18/08	02/19/08
J16965						
SILVER, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
ALUMINUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/20/08
ARSENIC, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
BERYLLIUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
CADMIUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
COPPER, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/20/08
IRON, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/20/08
MERCURY, TOTAL	005	S	08C0033	02/12/08	02/19/08	02/20/08
POTASSIUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/20/08
MAGNESIUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
MANGANESE, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
SODIUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/20/08
NICKEL, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08
ZINC, TOTAL	005	S	08L0072	02/12/08	02/18/08	02/19/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16966						
SILVER, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
ALUMINUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/20/08
ARSENIC, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
BERYLLIUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
CADMIUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
COPPER, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/20/08
IRON, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/20/08
MERCURY, TOTAL	006	S	08C0033	02/12/08	02/19/08	02/20/08
POTASSIUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/20/08
MAGNESIUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
MANGANESE, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
SODIUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/20/08
NICKEL, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
ZINC, TOTAL	006	S	08L0072	02/12/08	02/18/08	02/19/08
J16967						
SILVER, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
ALUMINUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/20/08
ARSENIC, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
BERYLLIUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CADMIUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
COPPER, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/20/08
IRON, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/20/08
MERCURY, TOTAL	007	S	08C0033	02/12/08	02/19/08	02/20/08
POTASSIUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/20/08
MAGNESIUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
MANGANESE, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
SODIUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/20/08
NICKEL, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
ZINC, TOTAL	007	S	08L0072	02/12/08	02/18/08	02/19/08
J16968						
SILVER, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
ALUMINUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/20/08
ARSENIC, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
BERYLLIUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
CADMIUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
COPPER, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/20/08
IRON, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/20/08
MERCURY, TOTAL	008	S	08C0033	02/12/08	02/19/08	02/20/08
POTASSIUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/20/08
MAGNESIUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
MANGANESE, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SODIUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/20/08
NICKEL, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
ZINC, TOTAL	008	S	08L0072	02/12/08	02/18/08	02/19/08
J16969						
SILVER, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
ALUMINUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/20/08
ARSENIC, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
BERYLLIUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
CADMIUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
COPPER, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/20/08
IRON, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/20/08
MERCURY, TOTAL	009	S	08C0033	02/12/08	02/19/08	02/20/08
POTASSIUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/20/08
MAGNESIUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
MANGANESE, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
SODIUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/20/08
NICKEL, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
ZINC, TOTAL	009	S	08L0072	02/12/08	02/18/08	02/19/08
J16970						
SILVER, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ALUMINUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/20/08
ARSENIC, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
BERYLLIUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
CADMIUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
COPPER, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/20/08
IRON, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/20/08
MERCURY, TOTAL	010	S	08C0033	02/12/08	02/19/08	02/20/08
POTASSIUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/20/08
MAGNESIUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
MANGANESE, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
SODIUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/20/08
NICKEL, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
ZINC, TOTAL	010	S	08L0072	02/12/08	02/18/08	02/19/08
J16971						
SILVER, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
ALUMINUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/20/08
ARSENIC, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
BORON, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
BARIUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
BERYLLIUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
CALCIUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
CADMIUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
COBALT, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
CHROMIUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
COPPER, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/20/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/20/08
MERCURY, TOTAL	011	S	08C0033	02/12/08	02/19/08	02/20/08
POTASSIUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/20/08
MAGNESIUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
MANGANESE, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
MOLYBDENUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
SODIUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/20/08
NICKEL, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
LEAD, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
ANTIMONY, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
SELENIUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
SILICON, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
VANADIUM, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08
ZINC, TOTAL	011	S	08L0072	02/12/08	02/18/08	02/19/08

LAB QC:

SILVER LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
SILVER, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
SILVER LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
SILVER, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
ALUMINUM LABORTORY	LC1 BS	S	08L0072	N/A	02/18/08	02/20/08
ALUMINUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/20/08
ALUMINUM LABORTORY	LC1 BS	S	08L0074	N/A	02/19/08	02/21/08
ALUMINUM, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/21/08
ARSENIC LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
ARSENIC, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
ARSENIC LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
ARSENIC, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
BORON LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
BORON, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
BARIUM LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
BARIUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
BARIUM LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
BARIUM, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
BERYLLIUM LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
BERYLLIUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
BERYLLIUM LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BERYLLIUM, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
CALCIUM LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
CALCIUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
CALCIUM LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
CALCIUM, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
CADMIUM LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
CADMIUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
CADMIUM LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
CADMIUM, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
COBALT LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
COBALT, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
COBALT LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
COBALT, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
CHROMIUM LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
CHROMIUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
CHROMIUM LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
CHROMIUM, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
COPPER LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/20/08
COPPER, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/20/08
COPPER LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/21/08
COPPER, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/21/08
IRON LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/20/08
IRON, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/20/08
IRON LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/21/08
IRON, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/21/08
MERCURY LABORATORY	LC1 BS	S	08C0033	N/A	02/19/08	02/20/08
MERCURY, TOTAL	MB1	S	08C0033	N/A	02/19/08	02/20/08
POTASSIUM LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/20/08
POTASSIUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/20/08
POTASSIUM LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/21/08
POTASSIUM, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/21/08
MAGNESIUM LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
MAGNESIUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
MAGNESIUM LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
MAGNESIUM, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
MANGANESE LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
MANGANESE, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
MANGANESE LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MANGANESE, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
MOLYBDENUM LABORATOR	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
MOLYBDENUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
SODIUM LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/20/08
SODIUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/20/08
SODIUM LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/21/08
SODIUM, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/21/08
NICKEL LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
NICKEL, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
NICKEL LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
NICKEL, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
LEAD LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
LEAD, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
LEAD LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
LEAD, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
ANTIMONY LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
ANTIMONY, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
ANTIMONY LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
ANTIMONY, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
SELENIUM LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
SELENIUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
SELENIUM LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
SELENIUM, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
SILICON LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
SILICON, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
VANADIUM LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
VANADIUM, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
VANADIUM LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
VANADIUM, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08
ZINC LABORATORY	LC1 BS	S	08L0072	N/A	02/18/08	02/19/08
ZINC, TOTAL	MB1	S	08L0072	N/A	02/18/08	02/19/08
ZINC LABORATORY	LC1 BS	S	08L0074	N/A	02/19/08	02/22/08
ZINC, TOTAL	MB1	S	08L0074	N/A	02/19/08	02/22/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-032
LVL#: 0802L600
SDG/SAF#: K1120/RC-032

W.O.#: 11343-606-001-9999-00
Date Received: 02-14-08

METALS CASE NARRATIVE

The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvLI) certifies that all test results meet the requirements of NELAC except as noted below.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise.

1. This narrative covers the analyses of 11 soil samples.

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

   In the initial digestion batch, the matrix spike was lost on the hotplate during digestion. The MS was redigested in batch 08L0074.

   All samples were reported with 3-fold dilutions for ICP metals due to sample matrix. The samples were rerun on a different instrument for Aluminum, Copper, Iron, Potassium, and Sodium due to high concentrations and/or sample matrix, or out of control ICV/CCV's.

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

4. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury) with the exception of the ICV, and/or various CCV's for Iron, Potassium, and Sodium. The samples were rerun in file PS0220C.

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

6. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation (3-10X the LOD), or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

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

8. All laboratory control samples (LCS) were within the 80-120% control limits with the exception of

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 43 pages.

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Silicon at 7.6%. Refer to the Inorganics Laboratory Control Standards Report. Associated sample results may be biased low.

9. The matrix spike (MS) recoveries for 7 analytes were outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.

10. 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:

Sample ID	Element	PDS Concentration (ppb)	PDS % Recovery
J16961	Aluminum	126,000	97.3
	Calcium	66,000	108.0
	Iron	126,000	91.5
	Magnesium	66,000	105.0
	Manganese	3,000	111.9
	Antimony	300	105.5
	Silicon	6,300	100.4

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

12. For the purposes of this report, the data has been reported to the Limit of Detection (LOD). Values between the LOD and the Limit of Quantitation (LOQ) are acquired in a region of less-certain quantification.

13. LvLI is NELAP accredited by the state of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

14. 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

2/27/03
Date

jjw/m02-600

LvLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within tl

Lot#: 08021600

Leaching Procedure: __1310 __1311 __1312 __Other:_____

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

Metals Digestion Methods: __3005A __3010A __3015 __3020A X 3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	X 6010B		__200.7				__99
Antimony	X 6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	X 6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	X 6010B		__200.7				__99
Beryllium	X 6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	X 6010B		__200.7				__99
Cadmium	X 6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	X 6010B		__200.7				__99
Chromium	X 6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	X 6010B		__200.7				__99
Copper	X 6010B	__7211 [5]	__200.7	__220.2			__99
Iron	X 6010B		__200.7				__99
Lead	X 6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	X 6010B		__200.7				__99
Manganese	X 6010B		__200.7				__99
Mercury	__7470A [3]	X 7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	X 6010B		__200.7				__99
Nickel	X 6010B		__200.7				__99
Potassium	X 6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	X 6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	X 6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	X 6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	X 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	X 6010B		__200.7				__99
Zinc	X 6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

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

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

ABBREVIATIONS

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

ANALYTICAL METAL METHODS

1. Not included in the method element list.

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

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J16961	Silver, Total	0.27 u	MG/KG	0.27	3.0
		Aluminum, Total	5850	MG/KG	10.7	3.0
		Arsenic, Total	1.6	MG/KG	1.3	3.0
		Boron, Total	1.3 u	MG/KG	1.3	3.0
		Barium, Total	52.1	MG/KG	0.27	3.0
		Beryllium, Total	0.38	MG/KG	0.13	3.0
		Calcium, Total	3480	MG/KG	10.7	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	5.4	MG/KG	0.54	3.0
		Chromium, Total	9.5	MG/KG	0.54	3.0
		Copper, Total	13.7	MG/KG	0.62	3.0
		Iron, Total	14500	MG/KG	12.1	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1030	MG/KG	132	3.0
		Magnesium, Total	3460	MG/KG	6.7	3.0
		Manganese, Total	240	MG/KG	0.11	3.0
		Molybdenum, Total	0.80 u	MG/KG	0.80	3.0
		Sodium, Total	119	MG/KG	5.4	3.0
		Nickel, Total	10.3	MG/KG	0.54	3.0
		Lead, Total	4.0	MG/KG	0.80	3.0
		Antimony, Total	0.80 u	MG/KG	0.80	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	220	MG/KG	10.7	3.0
		Vanadium, Total	26.4	MG/KG	0.38	3.0
		Zinc, Total	32.4	MG/KG	1.6	3.0

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INORGANICS DATA SUMMARY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J16962	Silver, Total	0.25 u	MG/KG	0.25	3.0
		Aluminum, Total	5520	MG/KG	9.8	3.0
		Arsenic, Total	3.1	MG/KG	1.2	3.0
		Boron, Total	1.2 u	MG/KG	1.2	3.0
		Barium, Total	46.7	MG/KG	0.25	3.0
		Beryllium, Total	0.41	MG/KG	0.12	3.0
		Calcium, Total	4000	MG/KG	9.8	3.0
		Cadmium, Total	0.12 u	MG/KG	0.12	3.0
		Cobalt, Total	5.5	MG/KG	0.49	3.0
		Chromium, Total	8.5	MG/KG	0.49	3.0
		Copper, Total	13.5	MG/KG	0.57	3.0
		Iron, Total	13700	MG/KG	11.1	3.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	929	MG/KG	121	3.0
		Magnesium, Total	3470	MG/KG	6.1	3.0
		Manganese, Total	236	MG/KG	0.1	3.0
		Molybdenum, Total	0.75	MG/KG	0.74	3.0
		Sodium, Total	122	MG/KG	4.9	3.0
		Nickel, Total	10.4	MG/KG	0.49	3.0
		Lead, Total	5.4	MG/KG	0.74	3.0
		Antimony, Total	0.74 u	MG/KG	0.74	3.0
		Selenium, Total	1.5 u	MG/KG	1.5	3.0
		Silicon, Total	207	MG/KG	9.8	3.0
		Vanadium, Total	28.2	MG/KG	0.34	3.0
		Zinc, Total	30.9	MG/KG	1.5	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J16963	Silver, Total	0.25 u	MG/KG	0.25	3.0
		Aluminum, Total	5250	MG/KG	10.0	3.0
		Arsenic, Total	2.7	MG/KG	1.3	3.0
		Boron, Total	1.3 u	MG/KG	1.3	3.0
		Barium, Total	49.1	MG/KG	0.25	3.0
		Beryllium, Total	0.39	MG/KG	0.13	3.0
		Calcium, Total	4680	MG/KG	10.0	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	5.2	MG/KG	0.50	3.0
		Chromium, Total	10.4	MG/KG	0.50	3.0
		Copper, Total	16.5	MG/KG	0.58	3.0
		Iron, Total	14200	MG/KG	11.3	3.0
		Mercury, Total	0.02	MG/KG	0.008	1.0
		Potassium, Total	897	MG/KG	123	3.0
		Magnesium, Total	3510	MG/KG	6.3	3.0
		Manganese, Total	230	MG/KG	0.10	3.0
		Molybdenum, Total	0.75 u	MG/KG	0.75	3.0
		Sodium, Total	149	MG/KG	5.0	3.0
		Nickel, Total	9.9	MG/KG	0.50	3.0
		Lead, Total	6.9	MG/KG	0.75	3.0
		Antimony, Total	0.75 u	MG/KG	0.75	3.0
		Selenium, Total	1.5 u	MG/KG	1.5	3.0
		Silicon, Total	196	MG/KG	10.0	3.0
		Vanadium, Total	29.4	MG/KG	0.35	3.0
		Zinc, Total	37.4	MG/KG	1.5	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J16964	Silver, Total	0.25 u	MG/KG	0.25	3.0
		Aluminum, Total	5270	MG/KG	9.9	3.0
		Arsenic, Total	2.6	MG/KG	1.2	3.0
		Boron, Total	1.2 u	MG/KG	1.2	3.0
		Barium, Total	46.2	MG/KG	0.25	3.0
		Beryllium, Total	0.37	MG/KG	0.12	3.0
		Calcium, Total	3600	MG/KG	9.9	3.0
		Cadmium, Total	0.12 u	MG/KG	0.12	3.0
		Cobalt, Total	5.0	MG/KG	0.50	3.0
		Chromium, Total	8.7	MG/KG	0.50	3.0
		Copper, Total	12.7	MG/KG	0.57	3.0
		Iron, Total	13200	MG/KG	11.2	3.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	941	MG/KG	122	3.0
		Magnesium, Total	3340	MG/KG	6.2	3.0
		Manganese, Total	228	MG/KG	0.1	3.0
		Molybdenum, Total	0.74 u	MG/KG	0.74	3.0
		Sodium, Total	115	MG/KG	5.0	3.0
		Nickel, Total	10.0	MG/KG	0.50	3.0
		Lead, Total	4.8	MG/KG	0.74	3.0
		Antimony, Total	0.74 u	MG/KG	0.74	3.0
		Selenium, Total	1.5 u	MG/KG	1.5	3.0
		Silicon, Total	209	MG/KG	9.9	3.0
		Vanadium, Total	25.2	MG/KG	0.35	3.0
		Zinc, Total	32.3	MG/KG	1.5	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	J16965	Silver, Total	0.26 u	MG/KG	0.26	3.0
		Aluminum, Total	7480	MG/KG	10.5	3.0
		Arsenic, Total	18.3	MG/KG	1.3	3.0
		Boron, Total	1.3 u	MG/KG	1.3	3.0
		Barium, Total	66.3	MG/KG	0.26	3.0
		Beryllium, Total	0.51	MG/KG	0.13	3.0
		Calcium, Total	3820	MG/KG	10.5	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	6.1	MG/KG	0.52	3.0
		Chromium, Total	11.0	MG/KG	0.52	3.0
		Copper, Total	14.9	MG/KG	0.60	3.0
		Iron, Total	16700	MG/KG	11.8	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1130	MG/KG	129	3.0
		Magnesium, Total	4300	MG/KG	6.5	3.0
		Manganese, Total	268	MG/KG	0.10	3.0
		Molybdenum, Total	0.79 u	MG/KG	0.79	3.0
		Sodium, Total	143	MG/KG	5.2	3.0
		Nickel, Total	11.7	MG/KG	0.52	3.0
		Lead, Total	60.1	MG/KG	0.79	3.0
		Antimony, Total	0.79 u	MG/KG	0.79	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	189	MG/KG	10.5	3.0
		Vanadium, Total	33.1	MG/KG	0.37	3.0
		Zinc, Total	38.3	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	J16966	Silver, Total	0.24 u	MG/KG	0.24	3.0
		Aluminum, Total	6260	MG/KG	9.7	3.0
		Arsenic, Total	2.7	MG/KG	1.2	3.0
		Boron, Total	1.8	MG/KG	1.2	3.0
		Barium, Total	66.2	MG/KG	0.24	3.0
		Beryllium, Total	0.45	MG/KG	0.12	3.0
		Calcium, Total	5430	MG/KG	9.7	3.0
		Cadmium, Total	0.12 u	MG/KG	0.12	3.0
		Cobalt, Total	5.7	MG/KG	0.48	3.0
		Chromium, Total	11.0	MG/KG	0.48	3.0
		Copper, Total	13.3	MG/KG	0.56	3.0
		Iron, Total	15000	MG/KG	10.9	3.0
		Mercury, Total	0.12	MG/KG	0.009	1.0
		Potassium, Total	1300	MG/KG	119	3.0
		Magnesium, Total	3930	MG/KG	6.0	3.0
		Manganese, Total	268	MG/KG	0.1	3.0
		Molybdenum, Total	0.73 u	MG/KG	0.73	3.0
		Sodium, Total	223	MG/KG	4.8	3.0
		Nickel, Total	10.8	MG/KG	0.48	3.0
		Lead, Total	11.2	MG/KG	0.73	3.0
		Antimony, Total	0.73 u	MG/KG	0.73	3.0
		Selenium, Total	1.5 u	MG/KG	1.5	3.0
		Silicon, Total	242	MG/KG	9.7	3.0
		Vanadium, Total	29.5	MG/KG	0.34	3.0
		Zinc, Total	38.4	MG/KG	1.5	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	J16967	Silver, Total	0.28 u	MG/KG	0.28	3.0
		Aluminum, Total	6770	MG/KG	11.4	3.0
		Arsenic, Total	2.3	MG/KG	1.4	3.0
		Boron, Total	1.4 u	MG/KG	1.4	3.0
		Barium, Total	52.0	MG/KG	0.28	3.0
		Beryllium, Total	0.48	MG/KG	0.14	3.0
		Calcium, Total	4120	MG/KG	11.4	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	6.1	MG/KG	0.57	3.0
		Chromium, Total	10.7	MG/KG	0.57	3.0
		Copper, Total	17.2	MG/KG	0.66	3.0
		Iron, Total	16200	MG/KG	12.8	3.0
		Mercury, Total	0.009u	MG/KG	0.009	1.0
		Potassium, Total	1140	MG/KG	140	3.0
		Magnesium, Total	4210	MG/KG	7.1	3.0
		Manganese, Total	267	MG/KG	0.11	3.0
		Molybdenum, Total	0.86 u	MG/KG	0.86	3.0
		Sodium, Total	131	MG/KG	5.7	3.0
		Nickel, Total	12.0	MG/KG	0.57	3.0
		Lead, Total	4.6	MG/KG	0.86	3.0
		Antimony, Total	0.86 u	MG/KG	0.86	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	193	MG/KG	11.4	3.0
		Vanadium, Total	33.7	MG/KG	0.40	3.0
		Zinc, Total	35.7	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-008	J16968	Silver, Total	0.22 u	MG/KG	0.22	3.0
		Aluminum, Total	5730	MG/KG	8.9	3.0
		Arsenic, Total	2.7	MG/KG	1.1	3.0
		Boron, Total	1.5	MG/KG	1.1	3.0
		Barium, Total	55.6	MG/KG	0.22	3.0
		Beryllium, Total	0.44	MG/KG	0.11	3.0
		Calcium, Total	3710	MG/KG	8.9	3.0
		Cadmium, Total	0.11 u	MG/KG	0.11	3.0
		Cobalt, Total	5.6	MG/KG	0.45	3.0
		Chromium, Total	8.9	MG/KG	0.45	3.0
		Copper, Total	12.9	MG/KG	0.51	3.0
		Iron, Total	14000	MG/KG	10.0	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1180	MG/KG	110	3.0
		Magnesium, Total	3730	MG/KG	5.6	3.0
		Manganese, Total	261	MG/KG	0.09	3.0
		Molybdenum, Total	0.67 u	MG/KG	0.67	3.0
		Sodium, Total	119	MG/KG	4.5	3.0
		Nickel, Total	10.1	MG/KG	0.45	3.0
		Lead, Total	5.4	MG/KG	0.67	3.0
		Antimony, Total	0.67 u	MG/KG	0.67	3.0
		Selenium, Total	1.3 u	MG/KG	1.3	3.0
		Silicon, Total	259	MG/KG	8.9	3.0
		Vanadium, Total	27.1	MG/KG	0.31	3.0
		Zinc, Total	32.8	MG/KG	1.3	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-009	J16969	Silver, Total	0.29 u	MG/KG	0.29	3.0
		Aluminum, Total	6020	MG/KG	11.5	3.0
		Arsenic, Total	2.8	MG/KG	1.4	3.0
		Boron, Total	1.4 u	MG/KG	1.4	3.0
		Barium, Total	63.8	MG/KG	0.29	3.0
		Beryllium, Total	0.46	MG/KG	0.14	3.0
		Calcium, Total	3760	MG/KG	11.5	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	5.8	MG/KG	0.58	3.0
		Chromium, Total	10.4	MG/KG	0.58	3.0
		Copper, Total	15.4	MG/KG	0.66	3.0
		Iron, Total	14600	MG/KG	13.0	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1180	MG/KG	142	3.0
		Magnesium, Total	3660	MG/KG	7.2	3.0
		Manganese, Total	285	MG/KG	0.12	3.0
		Molybdenum, Total	0.86 u	MG/KG	0.86	3.0
		Sodium, Total	118	MG/KG	5.8	3.0
		Nickel, Total	10.8	MG/KG	0.58	3.0
		Lead, Total	5.6	MG/KG	0.86	3.0
		Antimony, Total	0.86 u	MG/KG	0.86	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	279	MG/KG	11.5	3.0
		Vanadium, Total	28.1	MG/KG	0.40	3.0
		Zinc, Total	38.0	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-010	J16970	Silver, Total	0.26 u	MG/KG	0.26	3.0
		Aluminum, Total	5760	MG/KG	10.5	3.0
		Arsenic, Total	2.4	MG/KG	1.3	3.0
		Boron, Total	1.3 u	MG/KG	1.3	3.0
		Barium, Total	45.0	MG/KG	0.26	3.0
		Beryllium, Total	0.44	MG/KG	0.13	3.0
		Calcium, Total	3270	MG/KG	10.5	3.0
		Cadmium, Total	0.13 u	MG/KG	0.13	3.0
		Cobalt, Total	5.4	MG/KG	0.52	3.0
		Chromium, Total	9.4	MG/KG	0.52	3.0
		Copper, Total	15.6	MG/KG	0.60	3.0
		Iron, Total	14400	MG/KG	11.8	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	911	MG/KG	129	3.0
		Magnesium, Total	3690	MG/KG	6.5	3.0
		Manganese, Total	233	MG/KG	0.10	3.0
		Molybdenum, Total	0.78 u	MG/KG	0.78	3.0
		Sodium, Total	121	MG/KG	5.2	3.0
		Nickel, Total	11.5	MG/KG	0.52	3.0
		Lead, Total	4.1	MG/KG	0.78	3.0
		Antimony, Total	0.78 u	MG/KG	0.78	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	213	MG/KG	10.5	3.0
		Vanadium, Total	28.8	MG/KG	0.37	3.0
		Zinc, Total	30.7	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-011	J16971	Silver, Total	0.17 u	MG/KG	0.17	3.0
		Aluminum, Total	5520	MG/KG	7.0	3.0
		Arsenic, Total	2.5	MG/KG	0.87	3.0
		Boron, Total	0.87 u	MG/KG	0.87	3.0
		Barium, Total	46.2	MG/KG	0.17	3.0
		Beryllium, Total	0.46	MG/KG	0.09	3.0
		Calcium, Total	3370	MG/KG	7.0	3.0
		Cadmium, Total	0.09 u	MG/KG	0.09	3.0
		Cobalt, Total	5.7	MG/KG	0.35	3.0
		Chromium, Total	8.8	MG/KG	0.35	3.0
		Copper, Total	14.9	MG/KG	0.40	3.0
		Iron, Total	14800	MG/KG	7.9	3.0
		Mercury, Total	0.008u	MG/KG	0.008	1.0
		Potassium, Total	808	MG/KG	86.0	3.0
		Magnesium, Total	3630	MG/KG	4.4	3.0
		Manganese, Total	233	MG/KG	0.07	3.0
		Molybdenum, Total	0.52 u	MG/KG	0.52	3.0
		Sodium, Total	116	MG/KG	3.5	3.0
		Nickel, Total	10.6	MG/KG	0.35	3.0
		Lead, Total	4.1	MG/KG	0.52	3.0
		Antimony, Total	0.52 u	MG/KG	0.52	3.0
		Selenium, Total	1.0 u	MG/KG	1.0	3.0
		Silicon, Total	117	MG/KG	7.0	3.0
		Vanadium, Total	29.8	MG/KG	0.24	3.0
		Zinc, Total	30.7	MG/KG	1.0	3.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0072-MB1	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Aluminum, Total	4.0 u	MG/KG	4.0	1.0
		Arsenic, Total	0.50 u	MG/KG	0.50	1.0
		Boron, Total	0.50 u	MG/KG	0.50	1.0
		Barium, Total	0.10 u	MG/KG	0.10	1.0
		Beryllium, Total	0.05 u	MG/KG	0.05	1.0
		Calcium, Total	7.3	MG/KG	4.0	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Cobalt, Total	0.20 u	MG/KG	0.20	1.0
		Chromium, Total	0.21	MG/KG	0.20	1.0
		Copper, Total	0.23 u	MG/KG	0.23	1.0
		Iron, Total	4.5 u	MG/KG	4.5	1.0
		Potassium, Total	49.3 u	MG/KG	49.3	1.0
		Magnesium, Total	2.5 u	MG/KG	2.5	1.0
		Manganese, Total	0.05	MG/KG	0.04	1.0
		Molybdenum, Total	0.30 u	MG/KG	0.30	1.0
		Sodium, Total	7.9	MG/KG	2.0	1.0
		Nickel, Total	0.20 u	MG/KG	0.20	1.0
		Lead, Total	0.30 u	MG/KG	0.30	1.0
		Antimony, Total	0.30 u	MG/KG	0.30	1.0
		Selenium, Total	0.60 u	MG/KG	0.60	1.0
		Silicon, Total	4.0 u	MG/KG	4.0	1.0
		Vanadium, Total	0.14 u	MG/KG	0.14	1.0
		Zinc, Total	0.99	MG/KG	0.60	1.0
BLANK1	08L0074-MB1	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Aluminum, Total	4.0 u	MG/KG	4.0	1.0
		Arsenic, Total	0.88	MG/KG	0.50	1.0
		Barium, Total	0.48	MG/KG	0.10	1.0
		Beryllium, Total	0.05 u	MG/KG	0.05	1.0
		Calcium, Total	11.6	MG/KG	4.0	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Cobalt, Total	0.20 u	MG/KG	0.20	1.0
		Chromium, Total	0.20 u	MG/KG	0.20	1.0
		Copper, Total	0.24	MG/KG	0.23	1.0
		Iron, Total	4.5 u	MG/KG	4.5	1.0
		Potassium, Total	49.3 u	MG/KG	49.3	1.0
		Magnesium, Total	3.4	MG/KG	2.5	1.0
		Manganese, Total	0.09	MG/KG	0.04	1.0
		Sodium, Total	9.5	MG/KG	2.0	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 02/26/08

CLIENT: TNUHANFORD RC-032 K1120

LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0074-MB1	Nickel, Total	0.30	MG/KG	0.20	1.0
		Lead, Total	0.20 u	MG/KG	0.30	1.0
		Antimony, Total	0.38	MG/KG	0.30	1.0
		Selenium, Total	0.89	MG/KG	0.60	1.0
		Vanadium, Total	0.23	MG/KG	0.14	1.0
		Zinc, Total	0.66	MG/KG	0.60	1.0
BLANK1	08C0033-MB1	Mercury, Total	0.01 u	MG/KG	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J16961	Silver, Total	4.2	0.27u	4.5	93.3	3.0
		Aluminum, Total	7770	5850	179	1072 *	3.0
		Arsenic, Total	167	1.6	179	92.6	3.0
		Boron, Total	78.9	1.3 u	89.4	88.2	3.0
		Barium, Total	226	52.1	179	97.5	3.0
		Beryllium, Total	4.2	0.38	4.5	84.9	3.0
		Calcium, Total	6500	3480	2240	135.1	3.0
		Cadmium, Total	4.1	0.13u	4.5	91.1	3.0
		Cobalt, Total	47.3	5.4	44.7	93.7	3.0
		Chromium, Total	28.6	9.5	17.9	106.7	3.0
		Copper, Total	37.3	13.7	22.3	105.8	3.0
		Iron, Total	17500	14500	89.4	3318 *	3.0
		Mercury, Total	0.16	0.01u	0.16	99.4	1.0
		Potassium, Total	3230	1020	2240	98.2	3.0
		Magnesium, Total	6340	3460	2240	129.2	3.0
		Manganese, Total	331	240	44.7	203.1*	3.0
		Molybdenum, Total	79.0	0.80u	89.4	88.4	3.0
		Sodium, Total	2240	119	2240	95.1	3.0
		Nickel, Total	52.0	10.3	44.7	93.3	3.0
		Lead, Total	46.4	4.0	44.7	94.9	3.0
		Antimony, Total	19.5	0.80u	44.7	43.6	3.0
		Selenium, Total	147	1.6 u	179	82.4	3.0
		Silicon, Total	246	220	89.4	29.8	3.0
		Vanadium, Total	79.2	26.4	44.7	118.2	3.0
		Zinc, Total	79.6	32.4	44.7	105.6	3.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J16961	Silver, Total	0.27u	0.25u	NC	3.0
		Aluminum, Total	5850	6650	12.8	3.0
		Arsenic, Total	1.6	2.6	47.6	3.0
		Boron, Total	1.3 u	1.3 u	NC	3.0
		Barium, Total	52.1	62.1	17.5	3.0
		Beryllium, Total	0.38	0.41	7.0	3.0
		Calcium, Total	3480	3720	6.6	3.0
		Cadmium, Total	0.13u	0.13u	NC	3.0
		Cobalt, Total	5.4	6.5	18.5	3.0
		Chromium, Total	9.5	10.3	8.1	3.0
		Copper, Total	13.7	13.5	1.5	3.0
		Iron, Total	14500	15400	5.9	3.0
		Mercury, Total	0.01u	0.01u	NC	1.0
		Potassium, Total	1030	1220	17.1	3.0
		Magnesium, Total	3460	3800	9.4	3.0
		Manganese, Total	240	280	15.2	3.0
		Molybdenum, Total	0.80u	0.76u	NC	3.0
		Sodium, Total	119	127	6.2	3.0
		Nickel, Total	10.3	10.1	2.0	3.0
		Lead, Total	4.0	5.1	24.2	3.0
		Antimony, Total	0.80u	0.76u	NC	3.0
		Selenium, Total	1.6 u	1.5 u	NC	3.0
		Silicon, Total	220	187	16.2	3.0
		Vanadium, Total	26.4	28.5	7.7	3.0
		Zinc, Total	32.4	34.6	6.6	3.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0072-LC1	Silver, LCS	46.1	50.0	MG/KG	92.2
		Aluminum, LCS	470	500	MG/KG	94.0
		Arsenic, LCS	907	1000	MG/KG	90.7
		Boron, LCS	443	500	MG/KG	88.7
		Barium, LCS	458	500	MG/KG	91.6
		Beryllium, LCS	23.6	25.0	MG/KG	94.4
		Calcium, LCS	2340	2500	MG/KG	93.4
		Cadmium, LCS	23.5	25.0	MG/KG	94.0
		Cobalt, LCS	234	250	MG/KG	93.7
		Chromium, LCS	46.9	50.0	MG/KG	93.8
		Copper, LCS	116	125	MG/KG	93.2
		Iron, LCS	468	500	MG/KG	93.5
		Potassium, LCS	2350	2500	MG/KG	94.2
		Magnesium, LCS	2270	2500	MG/KG	90.7
		Manganese, LCS	70.3	75.0	MG/KG	93.7
		Molybdenum, LCS	456	500	MG/KG	91.1
		Sodium, LCS	2350	2500	MG/KG	94.0
		Nickel, LCS	187	200	MG/KG	93.6
		Lead, LCS	237	250	MG/KG	94.7
		Antimony, LCS	273	300	MG/KG	91.1
		Selenium, LCS	880	1000	MG/KG	88.0
		Silicon, LCS	37.8	500	MG/KG	7.6
		Vanadium, LCS	227	250	MG/KG	90.7
		Zinc, LCS	93.7	100	MG/KG	93.7
LCS1	08L0074-LC1	Silver, LCS	46.6	50.0	MG/KG	93.2
		Aluminum, LCS	476	500	MG/KG	95.2
		Arsenic, LCS	916	1000	MG/KG	91.6
		Barium, LCS	466	500	MG/KG	93.2
		Beryllium, LCS	23.1	25.0	MG/KG	92.4
		Calcium, LCS	2380	2500	MG/KG	95.1
		Cadmium, LCS	23.0	25.0	MG/KG	92.0
		Cobalt, LCS	233	250	MG/KG	93.3
		Chromium, LCS	46.5	50.0	MG/KG	93.0
		Copper, LCS	116	125	MG/KG	93.0
		Iron, LCS	477	500	MG/KG	95.4
		Potassium, LCS	2290	2500	MG/KG	91.8
		Magnesium, LCS	2320	2500	MG/KG	92.9
		Manganese, LCS	72.1	75.0	MG/KG	96.1
		Sodium, LCS	2350	2500	MG/KG	94.1

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 02/26/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0074-LC1	Nickel, LCS	184	200	MG/KG	92.2
		Lead, LCS	233	250	MG/KG	93.2
		Antimony, LCS	278	300	MG/KG	92.7
		Selenium, LCS	908	1000	MG/KG	90.8
		Vanadium, LCS	235	250	MG/KG	93.9
		Zinc, LCS	93.0	100	MG/KG	93.0
LCS1	08C0033-LC1	Mercury, LCS	4.4	4.7	MG/KG	94.2

Lionville Laboratory Incorporated

MERCURY PREPARATION

Logbook # 422

Analyst: TEP
Date 2/19/08
Start Time/Temp: 1440 / 95°
End Time/Temp: 1510 / 96°

Instrument ID HG3.1
Balance #: B29 /NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 08C0033
Worksheet: HG022001
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? __ Yes NA No (If no: designate affected samples in Comments column, and initiate an SDR)

NOTE: The Inital/Final Volume for water samples = 33mL, unless otherwise noted.
The Final volume for soil samples = 50mL, unless otherwise noted.

LvLI Batch #	Container Number	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
Blank	M1			10mL	50mL	
0.2 µg/L	B2	0.100				
1.0	514	0.500				
2.0	41	1.000				
5.0	HW	2.500				
10.0	205	5.000				
ICV	508	0.125	2.5			
CCV	5H	0.250	5.0			
ICB/CCB	R2					% SOL
MB1	N2			0.30		PBS433 100.00
LC1	3C	*	*	0.32		LCSS433
08022600-001	154			0.34		90.1
001R	711			0.33		
001S	R	0.500	1.0	0.34		
002	11A			0.35		91.81
003	P1			0.41		97.9
004	111E			0.36		91.6
005	AN			0.35		89.48
006	HT			0.40		86.23
007	P18			0.39		88.4
008	DX			0.32		87.51
009	E			0.34		86.71
010	ET			0.31		90.95
011	411			0.40		89.11
08022604-001	3C			0.34		96.85
001R	3H			0.33		
001S	GR	0.500	1.0	0.34		

Standard:	ID	Prep Date/Time
ICAL/MS	R1 6072-75-07B	2/19/08 1015
ICV/CCV/LCS	US 6072-75-08A	

Reviewed By/Date: [signature] 2/22/08

see book # 9368 for std traceability information

Soil LCS =US Metals in soil No.3; True Value = 4.70 mg/Kg
Catalogue #1RM-021, Lot # E021 *

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Water LCS Spiking Concentration: 1.0 µg/ml

ME-HgCVAA-Prep1007

Page #:

000000034

Lionville Laboratory Incorporated

MERCURY PREPARATION

Logbook # 422

Analyst: CEB
Date 2/19/08
Start Time/Temp: See page
End Time/Temp: 014

Instrument ID HG3-1
Balance #: B29 /NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 08C0033
Worksheet: HG022001
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? __ Yes NA No (If no: designate affected samples in Comments column, and initiate an SDR)

NOTE: The Initial/Final Volume for water samples = 33mL, unless otherwise noted.
The Final volume for soil samples = 50mL, unless otherwise noted.

LvLI Batch #	Container Number	Spike Volume (mL)	Spike Conc. (µg/L)	Initial Wt. or Volume (g or mL)	Final Sample Volume (mL)	Comments, % Solids, etc.
0802L604-002	CA			0.32	50mL	93.99
003	A1R			0.38		95.43
004	1V			0.31		89.64
005	L53			0.35		93.20
0802L579-001	BB			0.33		100.00
002	A3			0.35		
003	NB			0.30		
003R	C7			0.32		
003S	172	0.05	10.0	0.33		

CEB 2/19/08

Standard:	ID	Prep Date/Time
ICAL/MS		TB CEB 2/19/08
ICV/CCV/LCS	See page	014

Reviewed By/Date: [signature] 2/22/08

see book # 9368 for std traceability information

Soil LCS =US Metals in soil No.3; True Value = 4.70 mg/Kg
Catalogue #1RM-021, Lot # E021

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Water LCS Spiking Concentration: 1.0 µg/ml

ME-HgCVAA-Prep1007

Page #:

000000035

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0072
Date/Time Initiated: 2/18/08 1000
Date/Time Completed: 2/18/08 1500
Analyst(s): TW
Matrix: (Soil) Water Other:
Instr. Type: AA (ICP)
Parameters: ASL + B, Mo, Si (No Tl)

(Digested) / Undigested (circle one)
Balance #: B20
Balance Cal Verif: (Y) NA
Hot Plate Temp: 94°C

TW

Method: SW (circle)
3005A
3010A
3015
3020A
7060A (As/Se)
7760A (Ag)
(3050B)
3051
CLP ILMO3.0
ILMO4.0

DW 200.7 (1994)
200.9
3113B
MCAWW 200.7 (1982)
200 (AA)
206.2 (As/Se)
SM 3030C (NC)
Other tylenol

COC Batch #	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/So/TC	Texture	Color/Appearance	Artifact	Turb
08021600-001		1.24	100 ml	N/A	TO	coarse	brown-reddish	N/A	N/A
001R		1.31							
(A) 001S	1.0 ml	1.24							
002		1.33							
003		1.29							
004		1.32							
005		1.28							
006		1.44				fine muddy			
007		1.19				coarse			
008		1.54				muddy			
009		1.20				coarse			
010		1.26							
011		1.93							
08L0072-MB1		1.0					boiling chips		
LC1	1.0 ml	1.0							

TW 2/18/08

Spiking IDs:
MS #: 8100-04-01
02
03
8072-077-01
LCS #: 02
03
04
05

Reagent IDs:
HNO_3 E22071
HCL E100060
H_2O_2 E44A06
1:1 HNO_3 9789-070-06
1:1 HCL

File ID#: IC001201
LIMS Transfer: (Y) N
Data Review By/Date: PMP 02/18/08

(A) - 001s dropped/spilled on hotplate - all volume lost. TW 2/18/08

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0078 4 W.E. MW 2/19/08
Date/Time Initiated: 2/19/08 1000
Date/Time Completed: 2/19/08 1430
Analyst(s): MW
Matrix: (Soil) Water Other:
Instr. Type: AA (ICP)
Parameters: HSL + Sn, Zr (579)
HSL + B, Mo, Si (NO T) (600)
Digested / Undigested (circle one)
Balance #: B20
Balance Cal Verif: (Y) NA
Hot Plate Temp: 92°C

Method: SW (circle)
3005A
3010A
3015
3020A
7060A (As/Se)
7760A (Ag)
(3050B)
3051
CLP ILMO3.0
ILMO4.0

DW 200.7 (1994)
200.9
3113B
MCAWW 200.7 (1982)
200 (AA)
206.2 (As/Se)
SM 3030C (NC)
Other Tiffen

TMW

COC Batch # **	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/So/TC	Texture	Color/Appearance	Artifact	Turb
08021579-001 003		1.00			TO	coarse	silver/metal	N/A	N/A
004R		1.26					shavings		
005	1.0 (*)	1.00							
007		1.23				N/A	clear* oily liquid		
08021600-008	1.0	1.24				coarse	brown-rocks		
08L0074-MB1		1.0				N/A	broken chips		
LC1	1.0 (*)	1.0							
08021579-~~003~~		1.38					clear - oily liquid		
** 001							* yellow cloudy		
							MW 2/19/08		

MW 2/19/08

Spiking IDs:
MS #: 8100-04-01
07
03
8072-072-01
LCS #: 02
03
04
05

Reagent IDs:
HNO_3 E22071
HCL E40060
H_2O_2 E44A06
1:1 HNO_3 9789-070-06
1:1 HCL

File ID#: IC007401 IC007402
LIMS Transfer: (Y) N Updated
Data Review By/Date: PMP, 02/19/08

(*) also 0.25 ml Zr 6072-076-05
** sample 001/003 is same sample, 001 is oil fraction, 003 is metal shavings had it flip-flopped. MW 2/19/08

onville Laboratory Use Only

08021 600

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

lient TNC HANFORD

al, Final Proj. Sampling Date

roject # 11343-606-001-9999-00

roject Contact/Phone #

onville Laboratory Project Manager D. Johnson

c 300846 Del STD TAT 7 Day

ate Rec'd 2-14-08 Date Due 2-22-08 (WL 2-25-08)

	A	B	C	D	E F	G
Refrigerator #	2	2	2	2	2	2
#/Type Container (Liquid / Solid)	1G	1G	1G	1G	2P	1P
Volume (Liquid / Solid)	250	60	120	120	125	250
Preservatives	—	—	—	—	—	—
ANALYSES REQUESTED	VOA	BNA	Pest/PCB	Herb	TOX TPH	Metal / CN
			8270			

Lionville Laboratory Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0625H	0PCB	0608H	IPHC	metO	ICRG
001	I 16961			Soil	2-12-08	0900	X	X	X	X	X	X
002	62					0910	X	X	X	X	X	X
003	63					0925	X	X	X	X	X	X
004	64					0945	X	X	X	X	X	X
005	65					1000	X	X	X	X	X	X
006	66					1010	X	X	X	X	X	X
007	67					1025	X	X	X	X	X	X
008	68					1200	X	X	X	X	X	X
009	69					1215	X	X	X	X	X	X
010	70					1230	X	X	X	X	X	X

MATRIX CODES: S - Soil, Sd - Sediment, Sl - Solid, Sg - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, EP/TCLP - Leachate, WI - Wipe, O - Other, F - Fish

Special Instructions:

metO = HSL + B, Mo, Sn (NOTL)

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
Fred Eo	[illegible]	2-14-08	1410

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

000000038

onville Laboratory Use Only

18024 600

Custody Transfer Record/Lab Work Request

LYLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

lient

t, Final Proj. Sampling Date

roject #

roject Contact/Phone #

onville Laboratory Project Manager

C Del TAT

ate Rec'd Date Due

		A	B		C		D	EF		G					
Refrigerator #		2	2		2		2	2		2					
#/Type Container	Liquid / Solid	16	16		16		16	28		18					
Volume	Liquid / Solid	125	60		125		120	125		125					
Preservatives		—	—		—		—	—		—					
ANALYSES REQUESTED →		ORGANIC						INORG							
		VOA	BNA	Pest/PCB	Herb			TOX TPH	Metal	CN					

Lionville Laboratory Use Only

MATRIX CODES: S - Soil, Sediment; D - Solid, Sludge; W - Water; O - Oil; A - Air; B - Drum Solids; L - Drum Liquids; E - EP/TCLP Leachate; T - Wipe; X - Other; F - Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected		0625 H	OPCB		0608 H		IAHC	MeHg		ICP6				
	011	T1697			Soil	7/28/08	1230		X	X		X		X	X		X				

Special Instructions:

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
FedEx	[illegible]	7/31/08	1410

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000039

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 1 of 1

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 Day		
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification	SAF No.: RC-032	
Ice Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A080183	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

~~NA~~ TRE 2-13-08

Cool to 4°C

SAMPLE ANALYSIS												
Preservation				None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
Type of Container				P	P	aG	aG	aG	aG	P	P		
No. of Container(s)				2	1	1	1	1	1	1	1		
Volume				125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta		
Sample No.	Matrix *	Sample Date	Sample Time										
J16961	SOIL	2-12-08	0900	X	X	X	X	X	X				1
J16962	SOIL		0910	X	X	X	X	X	X				2
J16963	SOIL		0925	X	X	X	X	X	X				3
J16964	SOIL		0945	X	X	X	X	X	X				4
J16965	SOIL		1000	X	X	X	X	X	X				5

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 2/12/08 1400	Received By/Stored In	Date/Time 1400 2-12-08
Relinquished By/Removed From	Date/Time 1545 2-12-08	Received By/Stored In 1060/2B	Date/Time 1545 2-12-08
Relinquished By/Removed From 1060 #2B 2-13-08 0900	Date/Time	Received By/Stored In J.R. Edmondson 2-13-08 0900	Date/Time
Relinquished By/Removed From WCH J.R. Edmondson 2-13-08 1500	Date/Time	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From FED EX	Date/Time 2-14-08 1410	Received By/Stored In	Date/Time 2-14-08 740
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 custodian removed samples for shipping on 2-13-08

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

WCH-EE-011

000000040

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 2 of 2

ollector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Price Code: 8B	Data Turnaround: 7 DAY		
roject Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification		SAF No.: RC-032
e Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
hipped To: EBERLINE SERVICES / CLONVILLE	Offsite Property No.: A080183		Bill of Lading/Air Bill No.: STEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

TRA 2-13-08

Cool to 4°C

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None			
Type of Container	P	P	aG	aG	aG	aG	P	P			
No. of Container(s)	2	1	1	1	1	1	1	1			
Volume	125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL			
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta			
Sample No. / Matrix * / Sample Date / Sample Time											
16966 / SOIL / 2-12-08 / 1010	X	X	X	X	X	X					6
16967 / SOIL / 2-12-08 / 1025	X	X	X	X	X	X					7
16968 / SOIL / 2-12-08 / 1200	X	X	X	X	X	X					8
16969 / SOIL / 2-12-08 / 1215	X	X	X	X	X	X					9
16970 / SOIL / 2-12-08 / 1230	X	X	X	X	X	X					10

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	2-12-08 1400	[signature]	1400 2-12-08
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R DeBruine [signature]	2-12-08 1545	1060 / 2B	1545 2-12-08
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
1060 #2B	2-13-08 0900	[signature]	2-13-08 0900
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J.R. Edmondson	2-13-08 1500	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Fed Ex	2-14-08 1230	[signature]	2-14-08 1410
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108 metastable)

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 Custodian removed samples for shipping on 2-13-08.

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

CH-EE-011

000000041

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 3 of 3

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification		SAF No.: RC-032
Ice Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: #080183		Bill of Lading/Air Bill No.: SEE OSPC

Price Code: 8B

Data Turnaround: 7 DAY

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

~~NA~~ TRE 2-13-08

Cool to 4°C

SAMPLE ANALYSIS													
Preservation				None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
Type of Container				P	P	aG	aG	aG	aG	P	P		
No. of Container(s)				2	1	1	1	1	1	1	1		
Volume				125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta		
Sample No.	Matrix *	Sample Date	Sample Time										
16971	SOIL	2-12-08	1230	X	X	X	X	X	X				10 D

JRD 2-13-08

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: [illegible]	2-12-08 1900	Received By/Stored In: JRD-Rigue [illegible]	1400 2-12-08
Relinquished By/Removed From: JRD-Rigue [illegible]	2-12-08 1545	Received By/Stored In: 1060 #2B	1545 2-12-08
Relinquished By/Removed From: 1060 #2B	2-13-08 0900	Received By/Stored In: J.R. Edmundson [illegible]	2-13-08 0900
Relinquished By/Removed From: J.R. Edmundson [illegible] WCH	2-13-08 1500	Received By/Stored In: FED EX	
Relinquished By/Removed From: FED EX	2-14-08	Received By/Stored In: [illegible]	2-14-08 1410
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108 metastable)

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 custodian removed samples from ref#2B for shipping on 2-13-08

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

CH-EE-011

000000042

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD **Date:** 2-14-08

Project/SAF/SOW/Release #: RC-032

LvLI Batch #: 08021600 **Sample Custodian:** [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7914 9911 2013 7983 7406 7134
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 7-1 2.8	°C	Cooler # AFS-04-004 AFS-04-053
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
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 that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____

LvLI LIONVILLE LABORATORY INC

SR-002-B.doc

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

RECEIVED MAR 2008

DATE RECEIVED: 02/14/08 LVL LOT # :08C2168

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16961						
% SOLIDS	001	S	08L%S021	02/12/08	02/18/08	02/19/08
% SOLIDS	001 REP	S	08L%S021	02/12/08	02/18/08	02/19/08
CHROMIUM VI	001	S	08LVI013	02/12/08	02/19/08	02/19/08
PETROLEUM HYDROCARBO	001	S	08LHC005	02/12/08	02/21/08	02/26/08
J16962						
% SOLIDS	002	S	08L%S021	02/12/08	02/18/08	02/19/08
CHROMIUM VI	002	S	08LVI013	02/12/08	02/19/08	02/19/08
PETROLEUM HYDROCARBO	002	S	08LHC005	02/12/08	02/21/08	02/26/08
J16963						
% SOLIDS	003	S	08L%S021	02/12/08	02/18/08	02/19/08
CHROMIUM VI	003	S	08LVI013	02/12/08	02/19/08	02/19/08
PETROLEUM HYDROCARBO	003	S	08LHC005	02/12/08	02/21/08	02/26/08
J16964						
% SOLIDS	004	S	08L%S021	02/12/08	02/18/08	02/19/08
CHROMIUM VI	004	S	08LVI013	02/12/08	02/19/08	02/19/08
PETROLEUM HYDROCARBO	004	S	08LHC005	02/12/08	02/21/08	02/26/08
J16965						
% SOLIDS	005	S	08L%S021	02/12/08	02/18/08	02/19/08
CHROMIUM VI	005	S	08LVI013	02/12/08	02/19/08	02/19/08
PETROLEUM HYDROCARBO	005	S	08LHC005	02/12/08	02/21/08	02/26/08
J16966						
% SOLIDS	006	S	08L%S021	02/12/08	02/18/08	02/19/08
CHROMIUM VI	006	S	08LVI013	02/12/08	02/19/08	02/19/08
PETROLEUM HYDROCARBO	006	S	08LHC005	02/12/08	02/21/08	02/26/08
J16967						
% SOLIDS	007	S	08L%S021	02/12/08	02/18/08	02/19/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM VI	007	S	08LVI013	02/12/08	02/19/08	02/19/08
PETROLEUM HYDROCARBO	007	S	08LHC005	02/12/08	02/21/08	02/26/08
J16968						
% SOLIDS	008	S	08L%S021	02/12/08	02/18/08	02/19/08
CHROMIUM VI	008	S	08LVI013	02/12/08	02/19/08	02/19/08
PETROLEUM HYDROCARBO	008	S	08LHC005	02/12/08	02/21/08	02/26/08
J16969						
% SOLIDS	009	S	08L%S021	02/12/08	02/18/08	02/19/08
CHROMIUM VI	009	S	08LVI013	02/12/08	02/19/08	02/19/08
PETROLEUM HYDROCARBO	009	S	08LHC005	02/12/08	02/21/08	02/26/08
J16970						
% SOLIDS	010	S	08L%S021	02/12/08	02/18/08	02/19/08
CHROMIUM VI	010	S	08LVI013	02/12/08	02/19/08	02/19/08
CHROMIUM VI	010 REP	S	08LVI013	02/12/08	02/19/08	02/19/08
CHROMIUM VI	010 MS	S	08LVI013	02/12/08	02/19/08	02/19/08
CHROMIUM VI	010 MSD	S	08LVI013	02/12/08	02/19/08	02/19/08
PETROLEUM HYDROCARBO	010	S	08LHC005	02/12/08	02/21/08	02/26/08
J16971						
% SOLIDS	011	S	08L%S021	02/12/08	02/18/08	02/19/08
CHROMIUM VI	011	S	08LVI013	02/12/08	02/19/08	02/19/08
PETROLEUM HYDROCARBO	011	S	08LHC005	02/12/08	02/21/08	02/26/08
PETROLEUM HYDROCARBO	011 REP	S	08LHC005	02/12/08	02/21/08	02/26/08
PETROLEUM HYDROCARBO	011 MS	S	08LHC005	02/12/08	02/21/08	02/26/08

LAB QC:

CHROMIUM VI	MB1	S	08LVI013	N/A	02/19/08	02/19/08
CHROMIUM VI	MB1 BS	S	08LVI013	N/A	02/19/08	02/19/08
CHROMIUM VI	MB1 BSD	S	08LVI013	N/A	02/19/08	02/19/08
PETROLEUM HYDROCARBO	MB1	S	08LHC005	N/A	02/21/08	02/26/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-032 K1120

DATE RECEIVED: 02/14/08 LVL LOT # :0802L600

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
PETROLEUM HYDROCARBO	MB1 BS	S	08LHC005	N/A	02/21/08	02/26/08
PETROLEUM HYDROCARBO	MB1 BSD	S	08LHC005	N/A	02/21/08	02/26/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-032 K1120
LVL#: 0802L600

W.O.#: 11343-606-001-9999-00
Date Received: 02-14-08

INORGANIC NARRATIVE

1. This narrative covers the analyses of 11 soil samples.

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

   LvLI is NELAP accredited by the State of Pennsylvania. For a complete list of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager. LvLI certifies that all test results meet the requirements of NELAC with any exception noted in the following statements.

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

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

5. The method blank were within the method criteria.

6. The Laboratory Control Samples (LCS) were within the laboratory control limits. The duplicate LCS for Petroleum Hydrocarbons (PHC) was within the 20% Relative Percent Difference (RPD) control limit.

7. The matrix spike recoveries for Chromium VI and PHC were within the 75-125% control limits.

8. The replicate analyses for Percent Solids and PHC were within the 20% RPD control limit however replicate analysis for Chromium VI wa outside the control limit that may be attributed to sample inhomogeneity.

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

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

2/29/08
Date

njp\i02-600

The results presented in this report relate to the analytical testing and conditions of the samples upon receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 18 pages.

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

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

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

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

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

ABBREVIATIONS

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

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).

3. Test Methods for Evaluating Solid Waste (USEPA SW-846).

a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).

b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).

c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).

d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).

e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.

f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/29/08

CLIENT: TNUHANFORD RC-032 K1120

LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J16961	% Solids	90.2		%	0.01	1.0
		Chromium VI	0.22	u	MG/KG	0.22	1.0
		Petroleum Hydrocarbons	147	u	MG/KG	147	1.0
-002	J16962	% Solids	91.8		%	0.01	1.0
		Chromium VI	0.22	u	MG/KG	0.22	1.0
		Petroleum Hydrocarbons	145	u	MG/KG	145	1.0
-003	J16963	% Solids	93.0		%	0.01	1.0
		Chromium VI	0.36		MG/KG	0.22	1.0
		Petroleum Hydrocarbons	143	u	MG/KG	143	1.0
-004	J16964	% Solids	91.6		%	0.01	1.0
		Chromium VI	0.23		MG/KG	0.22	1.0
		Petroleum Hydrocarbons	145	u	MG/KG	145	1.0
-005	J16965	% Solids	89.5		%	0.01	1.0
		Chromium VI	0.27		MG/KG	0.22	1.0
		Petroleum Hydrocarbons	149	u	MG/KG	149	1.0
-006	J16966	% Solids	86.2		%	0.01	1.0
		Chromium VI	0.26		MG/KG	0.23	1.0
		Petroleum Hydrocarbons	418		MG/KG	154	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 02/29/08

CLIENT: TNUHANFORD RC-032 K1120

LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	J16967	% Solids	88.5		%	0.01	1.0
		Chromium VI	0.23	u	MG/KG	0.23	1.0
		Petroleum Hydrocarbons	150	u	MG/KG	150	1.0
-008	J16968	% Solids	87.5		%	0.01	1.0
		Chromium VI	0.23	u	MG/KG	0.23	1.0
		Petroleum Hydrocarbons	152	u	MG/KG	152	1.0
-009	J16969	% Solids	86.7		%	0.01	1.0
		Chromium VI	0.23	u	MG/KG	0.23	1.0
		Petroleum Hydrocarbons	153	u	MG/KG	153	1.0
-010	J16970	% Solids	91.0		%	0.01	1.0
		Chromium VI	0.24		MG/KG	0.22	1.0
		Petroleum Hydrocarbons	146	u	MG/KG	146	1.0
-011	J16971	% Solids	89.1		%	0.01	1.0
		Chromium VI	0.22	u	MG/KG	0.22	1.0
		Petroleum Hydrocarbons	149	u	MG/KG	149	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 02/29/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	08LVI013-MB1	Chromium VI	0.20	u	MG/KG	0.20	1.0
BLANK10	08LHC005-MB1	Petroleum Hydrocarbons	133	u	MG/KG	133	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 02/29/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-010	J16970	Soluble Chromium VI	4.4	0.24	4.4	93.8	1.0
		Insoluble Chromium VI	1260	0.24	1230	101.8	100
-011	J16971	Petroleum Hydrocarbons	614	27.0	626	93.8	1.0
BLANK10	08LVI013-MB1	Soluble Chromium VI	4.0	0.20u	4.0	101.0	1.0
		Insoluble Chromium VI	1240	0.20u	1200	103.6	100
BLANK10	08LHC005-MB1	Petroleum Hydrocarbons	520	133 u	560	92.8	1.0
		Petroleum Hydrocarbons	547	133 u	559	97.9	1.0

Lionville Laboratory, Inc.

INORGANICS DUPLICATE SPIKE REPORT 02/29/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
BLANK10	08LHC005-MB1	Petroleum Hydrocarbons	92.8	97.9	5.3

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 02/29/08

CLIENT: TNUHANFORD RC-032 K1120 LVL LOT #: 0802L600

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J16961	% Solids	90.2	90.0	0.23	1.0
-010REP	J16970	Chromium VI	0.24	0.22u	75.3	1.0
-011REP	J16971	Petroleum Hydrocarbons	149 u	149 u	NC	1.0

onville Laboratory Use Only

08021 600

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

lient: TNU HANFORD

at. Final Proj. Sampling Date:

roject #: 1343-606-001 9/22/06

roject Contact/Phone #:

onville Laboratory Project Manager: D Johnson

o: 500846 Del: STD TAT: 7 Day

ate Rec'd: 2-14-08 Date Due: 2-22-08 1 WL 2-15-08

	A	B	C	D	E	F	G
Refrigerator #	2	2	2	2	2		2
#/Type Container (Liquid/Solid)	1G	1G	1G	1G	2P		1P
Volume (Liquid/Solid)	250	60	125	120	125		250
Preservatives	—	—	—	—	—		—
ANALYSES REQUESTED	VOA	BNA	PCB	Herb	TOC TPH	Metal	CN
			ORGANIC			INORG	

Lionville Laboratory Use Only

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0625H	0PCB	0608H	IPHC	metD	ICRG
001	J16961			Soil	2-12-08	0900	X	X	X	X	X	X
002	62					0910	X	X	X	X	X	X
003	63					0925	X	X	X	X	X	X
004	64					0945	X	X	X	X	X	X
005	65					1000	X	X	X	X	X	X
006	66					1010	X	X	X	X	X	X
007	67					1025	X	X	X	X	X	X
008	68					1200	X	X	X	X	X	X
009	69					1215	X	X	X	X	X	X
010	70					1230	X	X	X	X	X	X

ATRIX CODES:
- Soil
- Sediment
- Solid
- Sludge
- Water
- Oil
- Air
- Drum Solids
- Drum Liquids
- EP/TCLP Leachate
- Wipe
- Other
- Fish

Special Instructions:

metD = HSL + B, Mo, Si (NOTL)

DATE/REVISIONS:

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

Relinquished by	Received by	Date	Time
Fred Eo	[illegible]	2-14-08	1410

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN		COMPOSITE WASTE	

000000012

onville Laboratory Use Only

18024 600

Custody Transfer Record/Lab Work Request

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

lent

t. Final Proj. Sampling Date

oject #

oject Contact/Phone #

onville Laboratory Project Manager

Del TAT

ite Rec'd Date Due

		A	B		C		D	EF		G					
Refrigerator #		2	2		2		2	2		2					
#/Type Container	Liquid														
	Solid	1G	1G		1G		1G	2P		1P					
Volume	Liquid														
	Solid	125	60		125		125	125		125					
Preservatives		—	—		—		—	—		—					
ANALYSES REQUESTED →		ORGANIC							INORG						
		VOA	BNA	Pest/PCB	Herb	PCB		TOC TPH	Metal	CN	CR6				
		Lionville Laboratory Use Only													
			0625H	OPCB		0608H		IPHC	MetD		ICR6				

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (S) MS	MSD	Matrix	Date Collected	Time Collected													
Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP Leachate, Wipe, Other Fish	011	71697			Soil	8/12/08	1230		X	X		X		X	X		X			

pecial Instructions:

DATE/REVISIONS:

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Relinquished by	Received by	Date	Time
[illegible]	[illegible]	8/14/08	1470

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000813

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 1 of 1

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman — Telephone No.: 528-6409	Project Coordinator: KESSNER, JH	Price Code: 8B — Data Turnaround: 7 Day
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification	SAF No.: RC-032	
Ice Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4 — COA: R10F262000	Method of Shipment: FED EX	
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A080183	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS
NA

Special Handling and/or Storage
at TRE 2-13-08
Cool to 4°C

SAMPLE ANALYSIS												
Preservation				None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
Type of Container				P	P	aG	aG	aG	aG	P	P		
No. of Container(s)				2	1	1	1	1	1	1	1		
Volume				125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta		
Sample No.	Matrix *	Sample Date	Sample Time										
16961	SOIL	2-12-08	0900	X	X	X	X	X	X				1
16962	SOIL		0910	X	X	X	X	X	X				2
16963	SOIL		0925	X	X	X	X	X	X				3
16964	SOIL		0945	X	X	X	X	X	X				4
16965	SOIL		1000	X	X	X	X	X	X				5

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: [illegible]	2/12/08 1400	Received By/Stored In: [illegible]	1400 2-12-08
Relinquished By/Removed From: TR DeBrigne	1545 2-12-08	Received By/Stored In: 1060/2B	1545 2-12-08
Relinquished By/Removed From: 060 #2B	2-13-08 0900	Received By/Stored In: TR Edmondson	2-13-08 0900
Relinquished By/Removed From: WCH T.R. Edmondson	2-13-08 1500	Received By/Stored In: FED EX	
Relinquished By/Removed From: Fed Ex	2-14-08 1410	Received By/Stored In: [illegible]	2-14-08 1410
Relinquished By/Removed From:		Received By/Stored In:	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108 metastable)

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 custodian removed samples for shipping on 2-13-08

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

CH-EE-011

000000014

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 2 of 3

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification		SAF No.: RC-032
Ice Chest No.: AFS-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / JONVILLE	Offsite Property No.: A080183		Bill of Lading/Air Bill No.: SEE OSPC

Price Code: 8B

Data Turnaround: 7 DAY

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

~~NA~~ TRE 2-13-08

Cool to 4°C

SAMPLE ANALYSIS													
Preservation				None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
Type of Container				P	P	aG	aG	aG	aG	P	P		
No. of Container(s)				2	1	1	1	1	1	1	1		
Volume				125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions.	Gross Alpha; Gross Beta		
Sample No.	Matrix *	Sample Date	Sample Time										
16966	SOIL	2-12-08	1010	X	X	X	X	X	X				6
16967	SOIL	2-12-08	1025	X	X	X	X	X	X				7
16968	SOIL	2-12-08	1200	X	X	X	X	X	X				8
16969	SOIL	2-12-08	1215	X	X	X	X	X	X				9
16970	SOIL	2-12-08	1230	X	X	X	X	X	X				10

TRE 2-13-08

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	2-12-08 1400	[illegible]	1400 2-12-08
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R. DeBruyne [illegible]	2-12-08 1545	1060 #2B	1545 2-12-08
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
1060 #2B	2-13-08 0900	[illegible]	2-13-08 0900
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	2-13-08 1500	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
FED EX	2-14-08 1230	[illegible]	2-14-08 1410
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 Custodian removed samples for shipping on 2-13-08.

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

ICH-EE-011

000000015

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-032-191	Page 1 of 1

Collector: T. Welch-Koelling	Company Contact: R.T. Coffman	Telephone No.: 528-6409	Project Coordinator: KESSNER, JH
Project Designation: 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location: 100-F-26:9 SP Verification		SAF No.: RC-032
Ice Chest No.: AF5-04-053	Field Logbook No.: EFL-1174-4	COA: R10F262000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A080183		Bill of Lading/Air Bill No.: SEE OSPC

Price Code: 8B

Data Turnaround: 7 DAY

POSSIBLE SAMPLE HAZARDS/REMARKS

NA

Special Handling and/or Storage

NA TRE 2-13-08

Cool to 4°C

SAMPLE ANALYSIS													
Preservation				None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None		
Type of Container				P	P	aG	aG	aG	aG	P	P		
No. of Container(s)				2	1	1	1	1	1	1	1		
Volume				125mL	125mL	60mL	120mL	125mL	120mL	500mL	125mL		
				See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	TPH (Total) - 418.1	See item (2) in Special Instructions	Gross Alpha; Gross Beta		
Sample No.	Matrix *	Sample Date	Sample Time										
16971	SOIL	2-12-08	1230	X	X	X	X	X	X				10 D

JRD 2-13-08

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 2-12-08 1900	Received By/Stored In	Date/Time 1400 2-12-08
Relinquished By/Removed From	Date/Time 1545 2-12-08	Received By/Stored In 1060 #2B	Date/Time 1545 2-12-08
Relinquished By/Removed From 1060 #2B 2-13-08	Date/Time 0900	Received By/Stored In	Date/Time 2-13-08 0900
Relinquished By/Removed From	Date/Time 2-13-08 1500	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From FED EX	Date/Time 2-14-08	Received By/Stored In	Date/Time 2-14-08 1410
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

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(2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108 metastable)

Sampler unavailable to relinquish samples from 1060 ref #2B. 1060 custodian removed samples from ref#2B for shipping on 2-13-08

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

CH-EE-011

0000000016

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD
Project/SAF/SOW/Release #: RC-032

Date: 2-14-08

LvLI Batch #: 08021600

Sample Custodian:

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7914 9917 2013 7983 7406 7134
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☑ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 7-1 2-8	°C	Cooler # AFS-04-004 AFS-04-053
How was the temperature taken?	☑ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
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 that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____

LvLI LIONVILLE LABORATORY INC

SR-002-B.doc