0074683

SAF-RC-020
100-BC Burial Grounds – Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Jason Capron X3-40 — KW 11/28/07
INITIAL/DATE

Jeanette Duncan H4-21 — KW 11/28/07
INITIAL/DATE

RECEIVED
DEC 06 2007
EDMC

COMMENTS:

SDG K1005 **SAF-RC-020**

Rad only Chem only X Rad & Chem

X Complete Partial

Waste Site: **100-B-21:2 (2-in. asbestos line)**

EBERLINE
SERVICES

RECEIVED
NOV 2007

November 13, 2007

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

Reference: **P.O. #630**
Eberline Services R7-10-146-7899, SDG K1005

Dear Ms. Kessner:

Enclosed is the data report for fourteen solid (soil) samples designated under SAF No. RC-020, received at Eberline Services on October 24, 2007. The samples were analyzed according to the accompanying chain-of-custody documents.

Please call if you have any questions concerning this report.

Sincerely,

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 K1005 was composed of fourteen solid (soil) samples designated under SAF No. RC-020 with a Project Designation of: 100-BC 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 November 8, 2007.

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."

Mel Mannion
Melissa C. Mannion
Senior Program Manager

11/13/07
Date

E B E R L I N E S E R V I C E S / R I C H M O N D
SAMPLE DELIVERY GROUP K1005

SDG	7899
Contact	Melissa C. Mannion

Client	Hanford
Contract	No. 630
Case no	SDG_K1005

S U M M A R Y D A T A S E C T I O N

T A B L E O F C O N T E N T S

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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	11/08/07

SDG 7899
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K1005

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 11/08/07

SDG 7899
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG K1005

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.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

SDG 7899
Contact Melissa C. Mannion

LAB SAMPLE SUMMARY

Client Hanford
Contract No. 630
Case no SDG K1005

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CHAIN OF CUSTODY	COLLECTED
R710146-01	J15W21	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 10:05
R710146-02	J15W22	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 10:20
R710146-03	J15W23	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 10:40
R710146-04	J15W24	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 10:55
R710146-05	J15W25	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 12:15
R710146-06	J15W26	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 12:35
R710146-07	J15W27	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 12:50
R710146-08	J15W28	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 13:10
R710146-09	J15W29	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 13:25
R710146-10	J15W30	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 13:50
R710146-11	J15W31	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 14:30
R710146-12	J15W32	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 14:50
R710146-13	J15W33	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 15:05
R710146-14	J15W34	100-B-21:2 Asbestos Line	SOLID		RC-020	RC-020-085	10/22/07 10:45
R710146-15	Lab Control Sample		SOLID		RC-020		
R710146-16	Method Blank		SOLID		RC-020		
R710146-17	Duplicate (R710146-07)	100-B-21:2 Asbestos Line	SOLID		RC-020		10/22/07 12:50

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

QC SUMMARY

SDG 7899
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG K1005

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
899	RC-020-085	J15W21	SOLID	98.3	1059 g		10/24/07	2	R710146-01	7899-001
		J15W22	SOLID	96.5	914 g		10/24/07	2	R710146-02	7899-002
		J15W23	SOLID	96.1	808 g		10/24/07	2	R710146-03	7899-003
		J15W24	SOLID	95.2	802 g		10/24/07	2	R710146-04	7899-004
		J15W25	SOLID	97.2	826 g		10/24/07	2	R710146-05	7899-005
		J15W26	SOLID	91.4	939 g		10/24/07	2	R710146-06	7899-006
		J15W27	SOLID	98.2	878 g		10/24/07	2	R710146-07	7899-007
		J15W28	SOLID	97.7	946 g		10/24/07	2	R710146-08	7899-008
		J15W29	SOLID	97.9	917 g		10/24/07	2	R710146-09	7899-009
		J15W30	SOLID	98.0	963 g		10/24/07	2	R710146-10	7899-010
		J15W31	SOLID	98.1	968 g		10/24/07	2	R710146-11	7899-011
		J15W32	SOLID	97.5	911 g		10/24/07	2	R710146-12	7899-012
		J15W33	SOLID	98.3	926 g		10/24/07	2	R710146-13	7899-013
		J15W34	SOLID	96.1	833 g		10/24/07	2	R710146-14	7899-014
		Method Blank	SOLID						R710146-16	7899-016
		Lab Control Sample	SOLID						R710146-15	7899-015
		Duplicate (R710146-07)	SOLID	98.2	878 g		10/24/07	2	R710146-17	7899-017

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

SDG 7899
Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
Contract No. 630
Case no SDG K1005

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	6133-008	20.0	14			1	1	1/1		
93B	SOLID	Gross Beta in Solids	6133-008	15.0	14			1	1	1/1		
Gamma Spectroscopy												
GAM	SOLID	Gamma Scan	6133-008	15.0	14			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 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

SDG 7899
Contact Melissa C. Mannion

LAB WORK SUMMARY

Client Hanford
Contract No. 630
Case no SDG K1005

LAB SAMPLE / COLLECTED / RECEIVED	CLIENT SAMPLE ID / LOCATION / CUSTODY	MATRIX / SAF No	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
710146-01	J15W21		7899-001	93A/93		11/02/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line	SOLID	7899-001	93B/93		11/02/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020	7899-001	GAM		11/02/07	11/06/07	CSS	Gamma Scan
710146-02	J15W22		7899-002	93A/93		11/01/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line	SOLID	7899-002	93B/93		11/01/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020	7899-002	GAM		11/02/07	11/06/07	CSS	Gamma Scan
710146-03	J15W23		7899-003	93A/93		11/01/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line	SOLID	7899-003	93B/93		11/01/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020	7899-003	GAM		11/02/07	11/06/07	CSS	Gamma Scan
710146-04	J15W24		7899-004	93A/93		11/01/07	11/06/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line	SOLID	7899-004	93B/93		11/01/07	11/06/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020	7899-004	GAM		11/02/07	11/06/07	CSS	Gamma Scan
710146-05	J15W25		7899-005	93A/93		11/02/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line	SOLID	7899-005	93B/93		11/02/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020	7899-005	GAM		11/03/07	11/06/07	CSS	Gamma Scan
710146-06	J15W26		7899-006	93A/93		11/02/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line	SOLID	7899-006	93B/93		11/02/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020	7899-006	GAM		11/03/07	11/06/07	CSS	Gamma Scan
710146-07	J15W27		7899-007	93A/93		11/02/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line	SOLID	7899-007	93B/93		11/02/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020	7899-007	GAM		11/03/07	11/06/07	CSS	Gamma Scan
710146-08	J15W28		7899-008	93A/93		11/02/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line	SOLID	7899-008	93B/93		11/02/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020	7899-008	GAM		11/03/07	11/06/07	CSS	Gamma Scan
710146-09	J15W29		7899-009	93A/93		11/02/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line	SOLID	7899-009	93B/93		11/02/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020	7899-009	GAM		11/03/07	11/06/07	CSS	Gamma Scan
710146-10	J15W30		7899-010	93A/93		11/02/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line	SOLID	7899-010	93B/93		11/02/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020	7899-010	GAM		11/03/07	11/06/07	CSS	Gamma Scan

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

SDG 7899
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K1005

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
710146-11	J15W31			7899-011	93A/93		11/02/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line		SOLID	7899-011	93B/93		11/02/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020		7899-011	GAM		11/03/07	11/06/07	CSS	Gamma Scan
710146-12	J15W32			7899-012	93A/93		11/02/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line		SOLID	7899-012	93B/93		11/02/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020		7899-012	GAM		11/03/07	11/06/07	CSS	Gamma Scan
710146-13	J15W33			7899-013	93A/93		11/02/07	11/02/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line		SOLID	7899-013	93B/93		11/02/07	11/02/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020		7899-013	GAM		11/03/07	11/06/07	CSS	Gamma Scan
710146-14	J15W34			7899-014	93A/93		11/03/07	11/06/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line		SOLID	7899-014	93B/93		11/03/07	11/06/07	BW	Gross Beta in Solids
10/24/07	RC-020-085	RC-020		7899-014	GAM		11/03/07	11/06/07	CSS	Gamma Scan
710146-15	Lab Control Sample			7899-015	93A/93		11/03/07	11/06/07	BW	Gross Alpha in Solids
			SOLID	7899-015	93B/93		11/03/07	11/06/07	BW	Gross Beta in Solids
		RC-020		7899-015	GAM		11/03/07	11/06/07	CSS	Gamma Scan
710146-16	Method Blank			7899-016	93A/93		11/06/07	11/08/07	BW	Gross Alpha in Solids
			SOLID	7899-016	93B/93		11/06/07	11/08/07	BW	Gross Beta in Solids
		RC-020		7899-016	GAM		11/05/07	11/06/07	CSS	Gamma Scan
710146-17	Duplicate (R710146-07)			7899-017	93A/93		11/03/07	11/06/07	BW	Gross Alpha in Solids
10/22/07	100-B-21:2 Asbestos Line		SOLID	7899-017	93B/93		11/03/07	11/06/07	BW	Gross Beta in Solids
10/24/07		RC-020		7899-017	GAM		11/05/07	11/06/07	CSS	Gamma Scan

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
93A/93	RC-020	Gross Alpha in Solids	900.0_ALPHABETA_GPC	14			1	1	1	17
93B/93	RC-020	Gross Beta in Solids	900.0_ALPHABETA_GPC	14			1	1	1	17
GAM	RC-020	Gamma Scan	GAMMA_GS	14			1	1	1	17
TOTALS				42			3	3	3	51

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-016 Method Blank

METHOD BLANK

SDG	7899	Client/Case no	Hanford	SDG K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-16	Client sample id	Method Blank		
Dept sample id	7899-016	Material/Matrix		SOLID	
		SAF No	RC-020		

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	-2.34	3.0	7.78	10.0	U	93A
Gross Beta	12587-47-2	-1.62	5.4	9.05	15.0	U	93B
Potassium 40	13966-00-2	U		0.415		U	GAM
Cobalt 60	10198-40-0	U		0.019	0.050	U	GAM
Cesium 137	10045-97-3	U		0.018	0.100	U	GAM
Radium 226	13982-63-3	U		0.039	0.100	U	GAM
Radium 228	15262-20-1	U		0.072	0.200	U	GAM
Europium 152	14683-23-9	U		0.042	0.100	U	GAM
Europium 154	15585-10-1	U		0.045	0.100	U	GAM
Europium 155	14391-16-3	U		0.049	0.100	U	GAM
Thorium 228	14274-82-9	U		0.027		U	GAM
Thorium 232	TH-232	U		0.072		U	GAM
Uranium 235	15117-96-1	U		0.071		U	GAM
Uranium 238	U-238	U		1.74		U	GAM
Americium 241	14596-10-2	U		0.093		U	GAM
Silver 108m	14391-65-2	U		0.013		U	GAM

100-BC Burial Grounds - Soil

QC-BLANK #63320

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-015

Lab Control Sample

LAB CONTROL SAMPLE

SDG 7899

Contact Melissa C. Mannion

Client/Case no Hanford SDG K1005

Contract No. 630

Lab sample id R710146-15

Dept sample id 7899-015

Client sample id Lab Control Sample

Material/Matrix SOLID

SAF No RC-020

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	114	18	9.88	10.0		93A	111	4.4	103	60-140	70-130
Gross Beta	106	7.8	5.69	15.0		93B	113	4.5	94	76-124	80-120
Cobalt 60	1.04	0.080	0.027	0.050		GAM	0.993	0.040	105	73-127	80-120
Cesium 137	1.05	0.071	0.048	0.100		GAM	1.04	0.042	101	74-126	80-120

100-BC Burial Grounds - Soil

QC-LCS #63319

Lab id EBRLNE

Protocol Hanford

Version Ver 1.0

Form DVD-LCS

Version 3.06

Report date 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-017 J15W27

DUPLICATE

SDG	7899			Client/Case no	Hanford SDG K1005
Contact	Melissa C. Mannion			Contract	No. 630
	DUPLICATE		ORIGINAL		
Lab sample id	R710146-17	Lab sample id	R710146-07	Client sample id	J15W27
Dept sample id	7899-017	Dept sample id	7899-007	Location/Matrix	100-B-21:2 Asbestos Line SOLID
		Received	10/24/07	Collected/Weight	10/22/07 12:50 878 g
% solids	98.2	% solids	98.2	Custody/SAF No	RC-020-085 RC-020

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	21.9	8.1	7.80	10.0		93A	19.3	7.1	5.74		13	89	0.4
Gross Beta	19.6	4.8	6.26	15.0		93B	21.5	6.3	8.95		9	66	0.4
Potassium 40	14.5	0.97	0.344			GAM	14.7	0.78	0.361		1	34	0.1
Cobalt 60	U		0.038	0.050	U	GAM	U		0.035	U	-		0.1
Cesium 137	0.098	0.034	0.036	0.100		GAM	0.067	0.019	0.026		38	78	1.4
Radium 226	0.784	0.080	0.073	0.100		GAM	0.909	0.083	0.068		15	38	1.2
Radium 228	1.20	0.18	0.152	0.200		GAM	1.15	0.16	0.137		4	44	0.3
Europium 152	U		0.101	0.100	U	GAM	U		0.116	U	-		0.2
Europium 154	U		0.121	0.100	U	GAM	U		0.121	U	-		0
Europium 155	U		0.133	0.100	U	GAM	U		0.101	U	-		0.4
Thorium 228	1.13	0.055	0.044			GAM	1.15	0.053	0.042		2	33	0.2
Thorium 232	1.20	0.18	0.152			GAM	1.15	0.16	0.137		4	44	0.3
Uranium 235	U		0.138		U	GAM	U		0.154	U	-		0.2
Uranium 238	U		4.39		U	GAM	U		4.46	U	-		0
Americium 241	U		0.047		U	GAM	U		0.060	U	-		0.3
Silver 108m	U		0.027		U	GAM	U		0.024	U	-		0.2

100-BC Burial Grounds - Soil

QC-DUP#7 63321

Lab id	EBRLNE
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-001 J15W21

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-01	Client sample id	J15W21		
Dept sample id	7899-001	Location/Matrix	100-B-21:2 Asbestos Line	SOLID	
Received	10/24/07	Collected/Weight	10/22/07 10:05	1059 g	
% solids	98.3	Custody/SAF No	RC-020-085	RC-020	

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	6.6	6.53	10.0		93A
Gross Beta	12587-47-2	13.5	4.3	5.95	15.0		93B
Potassium 40	13966-00-2	14.6	0.65	0.269			GAM
Cobalt 60	10198-40-0	U		0.029	0.050	U	GAM
Cesium 137	10045-97-3	U		0.051	0.100	U	GAM
Radium 226	13982-63-3	0.553	0.054	0.049	0.100		GAM
Radium 228	15262-20-1	0.743	0.12	0.114	0.200		GAM
Europium 152	14683-23-9	U		0.075	0.100	U	GAM
Europium 154	15585-10-1	U		0.090	0.100	U	GAM
Europium 155	14391-16-3	U		0.068	0.100	U	GAM
Thorium 228	14274-82-9	0.688	0.039	0.036			GAM
Thorium 232	TH-232	0.743	0.12	0.114			GAM
Uranium 235	15117-96-1	U		0.115		U	GAM
Uranium 238	U-238	U		3.07		U	GAM
Americium 241	14596-10-2	U		0.045		U	GAM
Silver 108m	14391-65-2	U		0.021		U	GAM

100-BC Burial Grounds - Soil

Lab id	EBRLNE
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-002 J15W22

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-02	Client sample id	J15W22		
Dept sample id	7899-002	Location/Matrix	100-B-21:2 Asbestos Line	SOLID	
Received	10/24/07	Collected/Weight	10/22/07 10:20	914 g	
% solids	96.5	Custody/SAF No	RC-020-085	RC-020	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	14.3	7.2	8.21	10.0		93A
Gross Beta	12587-47-2	19.8	4.8	6.30	15.0		93B
Potassium 40	13966-00-2	15.8	0.90	0.349			GAM
Cobalt 60	10198-40-0	U		0.031	0.050	U	GAM
Cesium 137	10045-97-3	0.093	0.036	0.038	0.100		GAM
Radium 226	13982-63-3	0.729	0.057	0.044	0.100		GAM
Radium 228	15262-20-1	0.971	0.15	0.137	0.200		GAM
Europium 152	14683-23-9	U		0.093	0.100	U	GAM
Europium 154	15585-10-1	U		0.104	0.100	U	GAM
Europium 155	14391-16-3	U		0.108	0.100	U	GAM
Thorium 228	14274-82-9	0.964	0.048	0.044			GAM
Thorium 232	TH-232	0.971	0.15	0.137			GAM
Uranium 235	15117-96-1	U		0.156		U	GAM
Uranium 238	U-238	U		3.74		U	GAM
Americium 241	14596-10-2	U		0.209		U	GAM
Silver 108m	14391-65-2	U		0.024		U	GAM

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-003 J15W23

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-03	Client sample id	J15W23		
Dept sample id	7899-003	Location/Matrix	100-B-21:2 Asbestos Line	SOLID	
Received	10/24/07	Collected/Weight	10/22/07 10:40	808 g	
% solids	96.1	Custody/SAF No	RC-020-085	RC-020	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	23.0	9.4	10.7	10.0		93A
Gross Beta	12587-47-2	23.7	4.6	5.52	15.0		93B
Potassium 40	13966-00-2	16.3	0.91	0.490			GAM
Cobalt 60	10198-40-0	U		0.041	0.050	U	GAM
Cesium 137	10045-97-3	U		0.045	0.100	U	GAM
Radium 226	13982-63-3	1.31	0.11	0.095	0.100		GAM
Radium 228	15262-20-1	1.78	0.20	0.165	0.200		GAM
Europium 152	14683-23-9	U		0.112	0.100	U	GAM
Europium 154	15585-10-1	U		0.139	0.100	U	GAM
Europium 155	14391-16-3	U		0.175	0.100	U	GAM
Thorium 228	14274-82-9	1.74	0.071	0.056			GAM
Thorium 232	TH-232	1.78	0.20	0.165			GAM
Uranium 235	15117-96-1	U		0.188		U	GAM
Uranium 238	U-238	U		4.91		U	GAM
Americium 241	14596-10-2	U		0.075		U	GAM
Silver 108m	14391-65-2	U		0.030		U	GAM

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-004 J15W24

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-04	Client sample id	J15W24		
Dept sample id	7899-004	Location/Matrix	100-B-21:2 Asbestos Line	SOLID	
Received	10/24/07	Collected/Weight	10/22/07 10:55	802 g	
% solids	95.2	Custody/SAF No	RC-020-085	RC-020	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	31.9	9.7	8.79	10.0		93A
Gross Beta	12587-47-2	23.8	4.7	5.54	15.0		93B
Potassium 40	13966-00-2	17.0	0.92	0.373			GAM
Cobalt 60	10198-40-0	U		0.035	0.050	U	GAM
Cesium 137	10045-97-3	U		0.042	0.100	U	GAM
Radium 226	13982-63-3	1.06	0.086	0.077	0.100		GAM
Radium 228	15262-20-1	1.32	0.17	0.167	0.200		GAM
Europium 152	14683-23-9	U		0.106	0.100	U	GAM
Europium 154	15585-10-1	U		0.116	0.100	U	GAM
Europium 155	14391-16-3	U		0.138	0.100	U	GAM
Thorium 228	14274-82-9	1.41	0.061	0.055			GAM
Thorium 232	TH-232	1.32	0.17	0.167			GAM
Uranium 235	15117-96-1	U		0.186		U	GAM
Uranium 238	U-238	U		4.26		U	GAM
Americium 241	14596-10-2	U		0.270		U	GAM
Silver 108m	14391-65-2	U		0.030		U	GAM

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-005 J15W25

DATA SHEET

SDG	7899	Client/Case no	Hanford SDG K1005
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R710146-05	Client sample id	J15W25
Dept sample id	7899-005	Location/Matrix	100-B-21:2 Asbestos Line SOLID
Received	10/24/07	Collected/Weight	10/22/07 12:15 826 g
% solids	97.2	Custody/SAF No	RC-020-085 RC-020

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	36.9	9.6	5.84	10.0		93A
Gross Beta	12587-47-2	23.2	6.4	8.97	15.0		93B
Potassium 40	13966-00-2	15.3	1.1	0.602			GAM
Cobalt 60	10198-40-0	U		0.048	0.050	U	GAM
Cesium 137	10045-97-3	U		0.057	0.100	U	GAM
Radium 226	13982-63-3	0.896	0.12	0.113	0.100		GAM
Radium 228	15262-20-1	1.25	0.25	0.229	0.200		GAM
Europium 152	14683-23-9	U		0.132	0.100	U	GAM
Europium 154	15585-10-1	U		0.182	0.100	U	GAM
Europium 155	14391-16-3	U		0.155	0.100	U	GAM
Thorium 228	14274-82-9	1.18	0.068	0.066			GAM
Thorium 232	TH-232	1.25	0.25	0.229			GAM
Uranium 235	15117-96-1	U		0.233		U	GAM
Uranium 238	U-238	U		5.68		U	GAM
Americium 241	14596-10-2	U		0.414		U	GAM
Silver 108m	14391-65-2	U		0.039		U	GAM

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-006 J15W26

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-06	Client sample id	J15W26		
Dept sample id	7899-006	Location/Matrix	100-B-21:2 Asbestos Line	SOLID	
Received	10/24/07	Collected/Weight	10/22/07 12:35	939 g	
% solids	91.4	Custody/SAF No	RC-020-085	RC-020	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	30.1	8.8	6.36	10.0		93A
Gross Beta	12587-47-2	20.4	4.7	5.93	15.0		93B
Potassium 40	13966-00-2	15.4	0.90	0.482			GAM
Cobalt 60	10198-40-0	U		0.043	0.050	U	GAM
Cesium 137	10045-97-3	U		0.045	0.100	U	GAM
Radium 226	13982-63-3	1.69	0.096	0.078	0.100		GAM
Radium 228	15262-20-1	1.90	0.20	0.185	0.200		GAM
Europium 152	14683-23-9	U		0.123	0.100	U	GAM
Europium 154	15585-10-1	U		0.152	0.100	U	GAM
Europium 155	14391-16-3	U		0.122	0.100	U	GAM
Thorium 228	14274-82-9	1.99	0.067	0.057			GAM
Thorium 232	TH-232	1.90	0.20	0.185			GAM
Uranium 235	15117-96-1	U		0.187		U	GAM
Uranium 238	U-238	U		5.10		U	GAM
Americium 241	14596-10-2	U		0.062		U	GAM
Silver 108m	14391-65-2	U		0.034		U	GAM

100-BC Burial Grounds - Soil

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-007 J15W27

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-07	Client sample id	J15W27		
Dept sample id	7899-007	Location/Matrix	100-B-21:2 Asbestos Line	SOLID	
Received	10/24/07	Collected/Weight	10/22/07 12:50	878 g	
% solids	98.2	Custody/SAF No	RC-020-085	RC-020	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	19.3	7.1	5.74	10.0		93A
Gross Beta	12587-47-2	21.5	6.3	8.95	15.0		93B
Potassium 40	13966-00-2	14.7	0.78	0.361			GAM
Cobalt 60	10198-40-0	U		0.035	0.050	U	GAM
Cesium 137	10045-97-3	0.067	0.019	0.026	0.100		GAM
Radium 226	13982-63-3	0.909	0.083	0.068	0.100		GAM
Radium 228	15262-20-1	1.15	0.16	0.137	0.200		GAM
Europium 152	14683-23-9	U		0.116	0.100	U	GAM
Europium 154	15585-10-1	U		0.121	0.100	U	GAM
Europium 155	14391-16-3	U		0.101	0.100	U	GAM
Thorium 228	14274-82-9	1.15	0.053	0.042			GAM
Thorium 232	TH-232	1.15	0.16	0.137			GAM
Uranium 235	15117-96-1	U		0.154		U	GAM
Uranium 238	U-238	U		4.46		U	GAM
Americium 241	14596-10-2	U		0.060		U	GAM
Silver 108m	14391-65-2	U		0.024		U	GAM

100-BC Burial Grounds - Soil

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-008 J15W28

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-08	Client sample id	J15W28		
Dept sample id	7899-008	Location/Matrix	100-B-21:2 Asbestos Line	SOLID	
Received	10/24/07	Collected/Weight	10/22/07 13:10	946 g	
% solids	97.7	Custody/SAF No	RC-020-085	RC-020	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	16.2	8.4	9.82	10.0		93A
Gross Beta	12587-47-2	21.9	4.5	5.68	15.0		93B
Potassium 40	13966-00-2	16.2	0.82	0.295			GAM
Cobalt 60	10198-40-0	U		0.028	0.050	U	GAM
Cesium 137	10045-97-3	U		0.045	0.100	U	GAM
Radium 226	13982-63-3	0.781	0.069	0.061	0.100		GAM
Radium 228	15262-20-1	1.12	0.13	0.117	0.200		GAM
Europium 152	14683-23-9	U		0.086	0.100	U	GAM
Europium 154	15585-10-1	U		0.086	0.100	U	GAM
Europium 155	14391-16-3	U		0.111	0.100	U	GAM
Thorium 228	14274-82-9	1.10	0.048	0.044			GAM
Thorium 232	TH-232	1.12	0.13	0.117			GAM
Uranium 235	15117-96-1	U		0.185		U	GAM
Uranium 238	U-238	U		3.44		U	GAM
Americium 241	14596-10-2	U		0.216		U	GAM
Silver 108m	14391-65-2	U		0.023		U	GAM

100-BC Burial Grounds - Soil

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-009 J15W29

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-09	Client sample id	J15W29		
Dept sample id	7899-009	Location/Matrix	100-B-21:2 Asbestos Line	SOLID	
Received	10/24/07	Collected/Weight	10/22/07 13:25	917 g	
% solids	97.9	Custody/SAF No	RC-020-085	RC-020	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	12.1	6.9	8.96	10.0		93A
Gross Beta	12587-47-2	17.1	4.2	5.65	15.0		93B
Potassium 40	13966-00-2	16.7	1.1	0.525			GAM
Cobalt 60	10198-40-0	U		0.049	0.050	U	GAM
Cesium 137	10045-97-3	U		0.052	0.100	U	GAM
Radium 226	13982-63-3	0.798	0.10	0.087	0.100		GAM
Radium 228	15262-20-1	0.980	0.21	0.195	0.200		GAM
Europium 152	14683-23-9	U		0.123	0.100	U	GAM
Europium 154	15585-10-1	U		0.178	0.100	U	GAM
Europium 155	14391-16-3	U		0.145	0.100	U	GAM
Thorium 228	14274-82-9	0.950	0.068	0.066			GAM
Thorium 232	TH-232	0.980	0.21	0.195			GAM
Uranium 235	15117-96-1	U		0.218		U	GAM
Uranium 238	U-238	U		5.70		U	GAM
Americium 241	14596-10-2	U		0.403		U	GAM
Silver 108m	14391-65-2	U		0.039		U	GAM

100-BC Burial Grounds - Soil

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-010 J15W30

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-10	Client sample id	J15W30		
Dept sample id	7899-010	Location/Matrix	100-B-21:2 Asbestos Line	SOLID	
Received	10/24/07	Collected/Weight	10/22/07 13:50	963 g	
% solids	98.0	Custody/SAF No	RC-020-085	RC-020	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	15.4	7.5	8.99	10.0		93A
Gross Beta	12587-47-2	22.2	4.4	5.54	15.0		93B
Potassium 40	13966-00-2	15.4	0.95	0.396			GAM
Cobalt 60	10198-40-0	U		0.045	0.050	U	GAM
Cesium 137	10045-97-3	U		0.042	0.100	U	GAM
Radium 226	13982-63-3	0.697	0.085	0.077	0.100		GAM
Radium 228	15262-20-1	1.12	0.18	0.161	0.200		GAM
Europium 152	14683-23-9	U		0.109	0.100	U	GAM
Europium 154	15585-10-1	U		0.145	0.100	U	GAM
Europium 155	14391-16-3	U		0.112	0.100	U	GAM
Thorium 228	14274-82-9	1.02	0.058	0.052			GAM
Thorium 232	TH-232	1.12	0.18	0.161			GAM
Uranium 235	15117-96-1	U		0.164		U	GAM
Uranium 238	U-238	U		5.20		U	GAM
Americium 241	14596-10-2	U		0.054		U	GAM
Silver 108m	14391-65-2	U		0.031		U	GAM

100-BC Burial Grounds - Soil

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-011 J15W31

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-11	Client sample id	J15W31		
Dept sample id	7899-011	Location/Matrix	100-B-21:2 Asbestos Line	SOLID	
Received	10/24/07	Collected/Weight	10/22/07 14:30	968 g	
% solids	98.1	Custody/SAF No	RC-020-085	RC-020	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	17.4	8.0	9.39	10.0		93A
Gross Beta	12587-47-2	21.2	6.0	8.99	15.0		93B
Potassium 40	13966-00-2	15.9	0.74	0.329			GAM
Cobalt 60	10198-40-0	U		0.033	0.050	U	GAM
Cesium 137	10045-97-3	0.078	0.033	0.040	0.100		GAM
Radium 226	13982-63-3	0.799	0.065	0.055	0.100		GAM
Radium 228	15262-20-1	1.18	0.17	0.155	0.200		GAM
Europium 152	14683-23-9	U		0.123	0.100	U	GAM
Europium 154	15585-10-1	U		0.112	0.100	U	GAM
Europium 155	14391-16-3	U		0.137	0.100	U	GAM
Thorium 228	14274-82-9	1.12	0.049	0.040			GAM
Thorium 232	TH-232	1.18	0.17	0.155			GAM
Uranium 235	15117-96-1	U		0.144		U	GAM
Uranium 238	U-238	U		3.83		U	GAM
Americium 241	14596-10-2	U		0.058		U	GAM
Silver 108m	14391-65-2	U		0.023		U	GAM

100-BC Burial Grounds - Soil

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-012 J15W32

DATA SHEET

SDG	7899	Client/Case no	Hanford SDG K1005
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R710146-12	Client sample id	J15W32
Dept sample id	7899-012	Location/Matrix	100-B-21:2 Asbestos Line SOLID
Received	10/24/07	Collected/Weight	10/22/07 14:50 911 g
% solids	97.5	Custody/SAF No	RC-020-085 RC-020

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	17.0	8.9	11.6	10.0		93A
Gross Beta	12587-47-2	16.3	5.6	8.70	15.0		93B
Potassium 40	13966-00-2	15.9	0.86	0.286			GAM
Cobalt 60	10198-40-0	U		0.031	0.050	U	GAM
Cesium 137	10045-97-3	0.050	0.026	0.031	0.100		GAM
Radium 226	13982-63-3	0.771	0.057	0.045	0.100		GAM
Radium 228	15262-20-1	1.08	0.14	0.126	0.200		GAM
Europium 152	14683-23-9	U		0.089	0.100	U	GAM
Europium 154	15585-10-1	U		0.092	0.100	U	GAM
Europium 155	14391-16-3	U		0.108	0.100	U	GAM
Thorium 228	14274-82-9	1.05	0.046	0.039			GAM
Thorium 232	TH-232	1.08	0.14	0.126			GAM
Uranium 235	15117-96-1	U		0.146		U	GAM
Uranium 238	U-238	U		3.69		U	GAM
Americium 241	14596-10-2	U		0.210		U	GAM
Silver 108m	14391-65-2	U		0.023		U	GAM

100-BC Burial Grounds - Soil

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-013 J15W33

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG_K1005	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R710146-13	Client sample id	J15W33		
Dept sample id	7899-013	Location/Matrix	100-B-21:2 Asbestos Line	SOLID	
Received	10/24/07	Collected/Weight	10/22/07 15:05	926 g	
% solids	98.3	Custody/SAF No	RC-020-085	RC-020	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	9.66	6.2	8.28	10.0		93A
Gross Beta	12587-47-2	15.9	4.2	5.60	15.0		93B
Potassium 40	13966-00-2	16.6	0.91	0.388			GAM
Cobalt 60	10198-40-0	U		0.043	0.050	U	GAM
Cesium 137	10045-97-3	U		0.062	0.100	U	GAM
Radium 226	13982-63-3	0.828	0.082	0.074	0.100		GAM
Radium 228	15262-20-1	1.24	0.20	0.171	0.200		GAM
Europium 152	14683-23-9	U		0.109	0.100	U	GAM
Europium 154	15585-10-1	U		0.139	0.100	U	GAM
Europium 155	14391-16-3	U		0.186	0.100	U	GAM
Thorium 228	14274-82-9	1.23	0.059	0.050			GAM
Thorium 232	TH-232	1.24	0.20	0.171			GAM
Uranium 235	15117-96-1	U		0.166		U	GAM
Uranium 238	U-238	U		4.77		U	GAM
Americium 241	14596-10-2	U		0.055		U	GAM
Silver 108m	14391-65-2	U		0.031		U	GAM

100-BC Burial Grounds - Soil

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

7899-014 J15W34

DATA SHEET

SDG	7899	Client/Case no	Hanford	SDG K1005
Contact	Melissa C. Mannion	Contract	No. 630	
Lab sample id	R710146-14	Client sample id	J15W34	
Dept sample id	7899-014	Location/Matrix	100-B-21:2 Asbestos Line	SOLID
Received	10/24/07	Collected/Weight	10/22/07 10:45	833 g
% solids	96.1	Custody/SAF No	RC-020-085	RC-020

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	21.4	9.3	11.3	10.0		93A
Gross Beta	12587-47-2	24.6	6.0	8.68	15.0		93B
Potassium 40	13966-00-2	16.4	0.77	0.314			GAM
Cobalt 60	10198-40-0	U		0.038	0.050	U	GAM
Cesium 137	10045-97-3	U		0.040	0.100	U	GAM
Radium 226	13982-63-3	1.50	0.093	0.076	0.100		GAM
Radium 228	15262-20-1	1.71	0.18	0.168	0.200		GAM
Europium 152	14683-23-9	U		0.100	0.100	U	GAM
Europium 154	15585-10-1	U		0.123	0.100	U	GAM
Europium 155	14391-16-3	U		0.129	0.100	U	GAM
Thorium 228	14274-82-9	1.76	0.062	0.049			GAM
Thorium 232	TH-232	1.71	0.18	0.168			GAM
Uranium 235	15117-96-1	U		0.174		U	GAM
Uranium 238	U-238	U		4.55		U	GAM
Americium 241	14596-10-2	U		0.070		U	GAM
Silver 108m	14391-65-2	U		0.028		U	GAM

100-BC Burial Grounds - Soil

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

Test 93A Matrix SOLID
SDG 7899
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS ALPHA IN SOLIDS

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. 630
Contract SDG K1005

.ESULTS

ıB ıMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha
:eparation batch 6133-008					
710146-01	93		7899-001	J15W21	14.4
710146-02	93		7899-002	J15W22	14.3
710146-03	93		7899-003	J15W23	23.0
710146-04	93		7899-004	J15W24	31.9
710146-05	93		7899-005	J15W25	36.9
710146-06	93		7899-006	J15W26	30.1
710146-07	93		7899-007	J15W27	19.3
710146-08	93		7899-008	J15W28	16.2
710146-09	93		7899-009	J15W29	12.1
710146-10	93		7899-010	J15W30	15.4
710146-11	93		7899-011	J15W31	17.4
710146-12	93		7899-012	J15W32	17.0
710146-13	93		7899-013	J15W33	9.66
710146-14	93		7899-014	J15W34	21.4
710146-15	93		7899-015	LCS (QC ID=63319)	ok
710146-16	93		7899-016	BLK (QC ID=63320)	U
710146-17	93		7899-017	Duplicate (R710146-07)	ok

ɔminal values and limits from method RDLs (pCi/g) 10.0
00-BC Burial Grounds - Soil

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

Test 93A Matrix SOLID
SDG 7899
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS ALPHA IN SOLIDS
GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. 630
Contract SDG K1005

IETHOD PERFORMANCE

AB AMPLE 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
reparation batch 6133-008			2σ prep error 20.0 % Reference Lab Notebook #6133, pg. 8													
710146-01	93		J15W21	6.53	0.100			51		100			11	10/30/07	11/02	GRB-105
710146-02	93		J15W22	8.21	0.100			49		100			10	10/30/07	11/01	GRB-110
710146-03	93		J15W23	10.7	0.100			47		100			10	10/30/07	11/01	GRB-111
710146-04	93		J15W24	8.79	0.100			45		100			10	10/30/07	11/01	GRB-112
710146-05	93		J15W25	5.84	0.100			45		100			11	10/30/07	11/02	GRB-107
710146-06	93		J15W26	6.36	0.100			47		100			11	10/30/07	11/02	GRB-105
710146-07	93		J15W27	5.74	0.100			42		100			11	10/30/07	11/02	GRB-107
710146-08	93		J15W28	9.82	0.100			46		100			11	10/30/07	11/02	GRB-209
710146-09	93		J15W29	8.96	0.100			45		100			11	10/30/07	11/02	GRB-210
710146-10	93		J15W30	8.99	0.100			47		100			11	10/30/07	11/02	GRB-211
710146-11	93		J15W31	9.39	0.100			43		100			11	10/30/07	11/02	GRB-213
710146-12	93		J15W32	11.6	0.100			48		100			11	10/30/07	11/02	GRB-214
710146-13	93		J15W33	8.28	0.100			38		100			11	10/30/07	11/02	GRB-216
710146-14	93		J15W34	11.3	0.100			44		100			12	10/30/07	11/03	GRB-214
710146-15	93		LCS (QC ID=63319)	9.88	0.100			60		100				10/30/07	11/03	GRB-216
710146-16	93		BLK (QC ID=63320)	7.78	0.100			60		100				10/30/07	11/06	GRB-107
710146-17	93		Duplicate (R710146-07) (QC ID=63321)	7.80	0.100			42		100			12	10/30/07	11/03	GRB-110
ominal 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 17 SAMPLES
MDA 8.59 ± 3.59
RESIDUE 47 ± 11

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

Test 93B Matrix SOLID
SDG 7899
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS BETA IN SOLIDS

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. 630
Contract SDG K1005

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta
Preparation batch 6133-008					
R710146-01	93		7899-001	J15W21	13.5
R710146-02	93		7899-002	J15W22	19.8
R710146-03	93		7899-003	J15W23	23.7
R710146-04	93		7899-004	J15W24	23.8
R710146-05	93		7899-005	J15W25	23.2
R710146-06	93		7899-006	J15W26	20.4
R710146-07	93		7899-007	J15W27	21.5
R710146-08	93		7899-008	J15W28	21.9
R710146-09	93		7899-009	J15W29	17.1
R710146-10	93		7899-010	J15W30	22.2
R710146-11	93		7899-011	J15W31	21.2
R710146-12	93		7899-012	J15W32	16.3
R710146-13	93		7899-013	J15W33	15.9
R710146-14	93		7899-014	J15W34	24.6
R710146-15	93		7899-015	LCS (QC ID=63319)	ok
R710146-16	93		7899-016	BLK (QC ID=63320)	U
R710146-17	93		7899-017	Duplicate (R710146-07)	ok

Nominal values and limits from method RDLs (pCi/g) 15.0
100-BC Burial Grounds - Soil

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

Test 93B Matrix SOLID
SDG 7899
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS BETA IN SOLIDS

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. 630
Contract SDG K1005

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 6133-008 2σ prep error 15.0 % Reference Lab Notebook #6133, pg. 8																
R710146-01	93		J15W21	5.95	0.100			51		100			11	10/30/07	11/02	GRB-105
R710146-02	93		J15W22	6.30	0.100			49		100			10	10/30/07	11/01	GRB-110
R710146-03	93		J15W23	5.52	0.100			47		100			10	10/30/07	11/01	GRB-111
R710146-04	93		J15W24	5.54	0.100			45		100			10	10/30/07	11/01	GRB-112
R710146-05	93		J15W25	8.97	0.100			45		100			11	10/30/07	11/02	GRB-107
R710146-06	93		J15W26	5.93	0.100			47		100			11	10/30/07	11/02	GRB-105
R710146-07	93		J15W27	8.95	0.100			42		100			11	10/30/07	11/02	GRB-107
R710146-08	93		J15W28	5.68	0.100			46		100			11	10/30/07	11/02	GRB-209
R710146-09	93		J15W29	5.65	0.100			45		100			11	10/30/07	11/02	GRB-210
R710146-10	93		J15W30	5.54	0.100			47		100			11	10/30/07	11/02	GRB-211
R710146-11	93		J15W31	8.99	0.100			43		100			11	10/30/07	11/02	GRB-213
R710146-12	93		J15W32	8.70	0.100			48		100			11	10/30/07	11/02	GRB-214
R710146-13	93		J15W33	5.60	0.100			38		100			11	10/30/07	11/02	GRB-216
R710146-14	93		J15W34	8.68	0.100			44		100			12	10/30/07	11/03	GRB-214
R710146-15	93		LCS (QC ID=63319)	5.69	0.100			60		100				10/30/07	11/03	GRB-216
R710146-16	93		BLK (QC ID=63320)	9.05	0.100			60		100				10/30/07	11/06	GRB-107
R710146-17	93		Duplicate (R710146-07) (QC ID=63321)	6.26	0.100			42		100			12	10/30/07	11/03	GRB-110
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 FOR 17 SAMPLES
MDA 6.88 ± 3.09
RESIDUE 47 ± 11

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

Test GAM Matrix SOLID
SDG 7899
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA SCAN

GAMMA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K1005

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt 60	Cesium 137
Preparation batch 6133-008						
R710146-01			7899-001	J15W21	U	U
R710146-02			7899-002	J15W22	U	0.093
R710146-03			7899-003	J15W23	U	U
R710146-04			7899-004	J15W24	U	U
R710146-05			7899-005	J15W25	U	U
R710146-06			7899-006	J15W26	U	U
R710146-07			7899-007	J15W27	U	0.067
R710146-08			7899-008	J15W28	U	U
R710146-09			7899-009	J15W29	U	U
R710146-10			7899-010	J15W30	U	U
R710146-11			7899-011	J15W31	U	0.078
R710146-12			7899-012	J15W32	U	0.050
R710146-13			7899-013	J15W33	U	U
R710146-14			7899-014	J15W34	U	U
R710146-15			7899-015	LCS (QC ID=63319)	ok	ok
R710146-16			7899-016	BLK (QC ID=63320)	U	U
R710146-17			7899-017	Duplicate (R710146-07)	- U	ok
Nominal values and limits from method				RDLs (pCi/g)	0.050	0.100
100-BC Burial Grounds - Soil						

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 11/08/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1005

Test GAM Matrix SOLID
SDG 7899
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA SCAN

GAMMA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K1005

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 6133-008			2σ prep error 15.0 % Reference Lab Notebook #6133, pg. 8													
R710146-01			J15W21	4.92	663					124			11	10/29/07	11/02	MB,07,00
R710146-02			J15W22	7.02	548					125			11	10/29/07	11/02	MB,08,00
R710146-03			J15W23	7.18	600					97			11	10/29/07	11/02	MB,07,00
R710146-04			J15W24	8.05	591					97			11	10/29/07	11/02	MB,08,00
R710146-05			J15W25	10.6	585					108			12	10/29/07	11/03	MB,05,00
R710146-06			J15W26	9.59	687					108			12	10/29/07	11/03	MB,06,00
R710146-07			J15W27	7.48	575					108			12	10/29/07	11/03	MB,07,00
R710146-08			J15W28	6.51	640					115			12	10/29/07	11/03	MB,08,00
R710146-09			J15W29	9.98	581					105			12	10/29/07	11/03	MB,05,00
R710146-10			J15W30	9.02	600					105			12	10/29/07	11/03	MB,06,00
R710146-11			J15W31	6.88	689					105			12	10/29/07	11/03	MB,07,00
R710146-12			J15W32	6.21	585					120			12	10/29/07	11/03	MB,08,00
R710146-13			J15W33	8.85	600					119			12	10/29/07	11/03	MB,06,00
R710146-14			J15W34	7.93	571					119			12	10/29/07	11/03	MB,07,00
R710146-15			LCS (QC ID=63319)	0.027	548					119				10/29/07	11/03	MB,05,00
R710146-16			BLK (QC ID=63320)	4.43	548					143				10/29/07	11/05	MB,08,00
R710146-17			Duplicate (R710146-07) (QC ID=63321)	7.98	575					143			14	10/29/07	11/05	MB,06,00
Nominal values and limits from method				0.050	548					100			180			

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

AVERAGES ± 2 SD FOR 17 SAMPLES
MDA 7.22 ± 4.97
YIELD ____ ± ____

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 11/08/07

SDG 7899
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K1005

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 11/08/07

SDG	7899
Contact	Melissa C. Mannion

REPORT GUIDE

Client	Hanford
Contract	No. 630
Case no	SDG K1005

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	11/08/07

SDG 7899
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K1005

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.

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Version Ver 1.0
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Version 3.06
Report date 11/08/07

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REPORT GUIDE

Client Hanford
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Case no SDG K1005

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).

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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.

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GUIDE, cont.

Client Hanford
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Case no SDG K1005

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.

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REPORT GUIDE

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Case no SDG_K1005

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.

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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.

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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.

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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

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GUIDE, cont.

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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.

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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'

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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.

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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-020-085	Page 1 of 3

Collector: C. Martinez / T. Welsh-Koelling	Company Contact: C. Martinez	Telephone No.: 509-539-2816	Project Coordinator: KESSNER, JH
Price Code: 8K	Data Turnaround: 15 days		
Project Designation: 100-BC Burial Grounds - Soil Full Protocol	Sampling Location: 100-B-21:2 (2-in asbestos line) K1005 (7899)		SAF No.: RC-020
Ice Chest No.: EPC-99-065	Field Logbook No.: EFL1173-14	COA: R10B212000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080010		Bill of Lading/Air Bill No.: see OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

None

Preservation	None	Cool 4C	Cool 4C	None	None					
Type of Container	G/P	G/P	aG	G/P	aG					
No. of Container(s)	1	1	1	1	1					
Volume	250mL	125mL	250mL	500mL	60mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions	Gross Alpha & Gross Beta					

Sample No.	Matrix *	Sample Date	Sample Time									
J15W21	SOIL	10/22/07	1005				✓	✓				
J15W22	SOIL		1020				✓	✓				
J15W23	SOIL		1040				✓	✓				
J15W24	SOIL		1055				✓	✓				
J15W25	SOIL	10/22/07	1215				✓	✓				

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
T. Welsh-Koelling / J. Bellen	10/22/07 1515	C. Martinez / C. Martinez	10/22/07 1515
C. Martinez / C. Martinez	10/22/07 1630	3728 2B	10/22/07 1630
3728 2B	10-23-07 1000	KM Singleton	10-23-07 1000
KM Singleton	10-23-07 1500	FED EX	
FED EX			10/24/07 09:15

SPECIAL INSTRUCTIONS 10/22/07

(1) ~~ICP Metals - 6010TR (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 - 7470 - (CV)~~
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Silver-108 metastable}

Sampler unavailable to relinquish samples from 3728 Ref #2B. 3728 Custodian removed samples for shipping on 10/23/07.

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-020-085	Page 2 of 3

Collector: C. Martinez \T. welsh-Koelling	Company Contact: C. Martinez	Telephone No.: 509-539-2816	Project Coordinator: KESSNER, JH
Price Code: 8K	Data Turnaround: 15 days		
Project Designation: 100-BC Burial Grounds - Soil Full Protocol	Sampling Location: 100-B-21:2 (2-in asbestos line) K1005 (7899)		SAF No.: RC-020
Ice Chest No.: ERC-99-065	Field Logbook No.: EFL1173-14	COA: R10B212000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080010		Bill of Lading/Air Bill No.: see OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

None

Preservation	None	Cool 4C	Cool 4C	None	None						
Type of Container	G/P	G/P	aG	G/P	aG						
No. of Container(s)	1	1	1	1	1						
Volume	250mL	125mL	250mL	500mL	60mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions	Gross Alpha & Gross Beta						

Sample No.	Matrix *	Sample Date	Sample Time										
J15W26	SOIL	10/22/07	1235				✓	✓					
J15W27	SOIL		1250				✓	✓					
J15W28	SOIL		1310				✓	✓					
J15W29	SOIL		1325				✓	✓					
J15W30	SOIL	10/22/07	1350				✓	✓					

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

Relinquished By Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	10/22/07 1515	C. Martinez / C. Martinez	10/22/07 1515
C. Martinez / C. Martinez	10/22/07 1630	3728 2B	10/22/07 1630
3728 2B	10-23-07 1000	[illegible]	10-23-07 1000
[illegible]	10-23-07 1500	FEDEX	
[illegible]		[illegible]	10/24/07 09:15

SPECIAL INSTRUCTIONS [illegible] 10/22/07

(1) ~~ICP Metals - 6010TR (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 - 7470 - (CV)~~

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

Sampler unavailable to relinquish samples from 3728 Ref # 2B
3728 Custodian removed samples for shipping on 10/23/07

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
AQ=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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-020-085 Page 2 of 3

Collector C. Martinez \T. welsh koelling	Company Contact C. Martinez	Telephone No. 509-539-2816	Project Coordinator KESSNER, JH	Price Code 8K	Data Turnaround 15 days
Project Designation 100-BC Burial Grounds - Soil Full Protocol	Sampling Location 100-B-21:2 (2-in asbestos line) K1005 (7899)		SAF No. RC-020		
Ice Chest No. ERC-99-065	Field Logbook No. EFL1173-14	COA R10B212000	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080010		Bill of Lading/Air Bill No. see OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

None

Preservation	None	Cool 4C	Cool 4C	None	None					
Type of Container	G/P	G/P	aG	G/P	aG					
No. of Container(s)	1	1	1	1	1					
Volume	250mL	125mL	250mL	500mL	60mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions	Gross Alpha & Gross Beta					

Sample No.	Matrix *	Sample Date	Sample Time									
			1430									
J15W31	SOIL	10/22/07	~~1005~~	10/22/07			✓	✓				
J15W32	SOIL		1450				✓	✓				
J15W33	SOIL		1505				✓	✓				
J15W34	SOIL	10/22/07	1045				✓	✓				
~~J15W35~~	~~SOIL~~	10/22/07	~~1025~~									

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	10/22/07 1515	c.martinez/c.martinez	1515 10/22/07
c.martinez/c.martinez	10/22/07 1630	3728 2B	1630 10/22/07
3728 2B	10-23-07 1000	[signature]	10-23-07 1000
[signature]	10-23-07 1300	FEDEX	
FED EX		[signature]	10/24/07 09:15

Sign/Print Names

SPECIAL INSTRUCTIONS

(1) ~~ICP Metals - 6010TR (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 - 7470 - (CV)~~ (cw 10/22/07)
(2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Silver-108 metastable}

Sampler unavailable to relinquish samples from 3728 Ref # 2B
3728 Custodian removed samples for shipping on 10/23/07

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
[illegible]

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

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

10/24/07 7899

Client: W.C. HANFORD City RICHLAND State WA

Date/Time received 10/24/07 09:15 CoC No. RC-020-085

Container I.D. No. ERC-99-065 Requested TAT (Days) 15 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: 14 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: 10/24/07 Time: 10:45

Customer Sample No.	cpm	mR/hr	Wipe	Customer Sample No.	cpm	mR/hr	wipe

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. _____ Calibration date _____

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020

K1005

RECEIVED NOV 2007

DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J15W21						
SILVER, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
SILVER, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
SILVER, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020

DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	001	S	07C0200	10/22/07	11/01/07	11/01/07
MERCURY, TOTAL	001 REP	S	07C0200	10/22/07	11/01/07	11/01/07
MERCURY, TOTAL	001 MS	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
POTASSIUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
POTASSIUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	001	S	07L0548	10/22/07	10/25/07	10/25/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020

DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ZINC, TOTAL	001 REP	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	001 MS	S	07L0548	10/22/07	10/25/07	10/25/07
J15W22						
SILVER, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	002	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	002	S	07L0548	10/22/07	10/25/07	10/25/07
J15W23						
SILVER, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020

DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BERYLLIUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	003	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	003	S	07L0548	10/22/07	10/25/07	10/25/07
J15W24						
SILVER, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	004	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020

DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MANGANESE, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	004	S	07L0548	10/22/07	10/25/07	10/25/07
J15W25						
SILVER, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	005	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	005	S	07L0548	10/22/07	10/25/07	10/25/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020

DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J15W26						
SILVER, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL						
BORON, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	006	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	006	S	07L0548	10/22/07	10/25/07	10/25/07
J15W27						
SILVER, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07

Lionville Laboratory, Inc.
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CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CADMIUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	007	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	007	S	07L0548	10/22/07	10/25/07	10/25/07
J15W28						
SILVER, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	008	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
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DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SODIUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	008	S	07L0548	10/22/07	10/25/07	10/25/07
J15W29						
SILVER, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	009	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	009	S	07L0548	10/22/07	10/25/07	10/25/07
J15W30						
SILVER, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07

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CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ALUMINUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	010	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	010	S	07L0548	10/22/07	10/25/07	10/25/07
J15W31						
SILVER, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07

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INORGANIC ANALYTICAL DATA PACKAGE FOR
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CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	011	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	011	S	07L0548	10/22/07	10/25/07	10/25/07
J15W32						
SILVER, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	012	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07

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INORGANIC ANALYTICAL DATA PACKAGE FOR
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DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SELENIUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	012	S	07L0548	10/22/07	10/25/07	10/25/07
J15W33						
SILVER, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	013	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	013	S	07L0548	10/22/07	10/25/07	10/25/07
J15W34						
SILVER, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020

DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BORON, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	014	S	07C0200	10/22/07	11/01/07	11/01/07
POTASSIUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	014	S	07L0548	10/22/07	10/25/07	10/25/07
J15W35						
SILVER, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
ALUMINUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
ARSENIC, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
BORON, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
BARIUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
BERYLLIUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
CALCIUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
CADMIUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
COBALT, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
CHROMIUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
COPPER, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
IRON, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
MERCURY, TOTAL	015	S	07C0200	10/22/07	11/01/07	11/01/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020

DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
POTASSIUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
MAGNESIUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
MANGANESE, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
MOLYBDENUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
SODIUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
NICKEL, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
LEAD, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
ANTIMONY, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
SELENIUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
SILICON, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
VANADIUM, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07
ZINC, TOTAL	015	S	07L0548	10/22/07	10/25/07	10/25/07

AB QC:

SILVER LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
SILVER, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
ALUMINUM LABORTORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
ALUMINUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
ARSENIC LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
ARSENIC, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
BORON LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
BORON, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
BARIUM LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
BARIUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
BERYLLIUM LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
BERYLLIUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
CALCIUM LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
CALCIUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
CADMIUM LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
CADMIUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
COBALT LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
COBALT, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
CHROMIUM LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
CHROMIUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
COPPER LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
COPPER, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
IRON LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020

DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
MERCURY LABORATORY	LC1 BS	S	07C0200	N/A	11/01/07	11/01/07
MERCURY, TOTAL	MB1	S	07C0200	N/A	11/01/07	11/01/07
POTASSIUM LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
POTASSIUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
MAGNESIUM LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
MAGNESIUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
MANGANESE LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
MANGANESE, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
MOLYBDENUM LABORATOR	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
MOLYBDENUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
SODIUM LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
SODIUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
NICKEL LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
NICKEL, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
LEAD LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
LEAD, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
ANTIMONY LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
ANTIMONY, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
SELENIUM LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
SELENIUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
SILICON LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
SILICON, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
VANADIUM LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
VANADIUM, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07
ZINC LABORATORY	LC1 BS	S	07L0548	N/A	10/25/07	10/25/07
ZINC, TOTAL	MB1	S	07L0548	N/A	10/25/07	10/25/07

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-020
LVL#: 0710L095
SDG/SAF#: H1005/RC-020

W.O.#: 11343-606-001-9999-00
Date Received: 10-24-07

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 15 soil samples.

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

   All samples, with the exception of sample J15W35, were reported with 3-fold dilutions for ICP metals due to sample matrix.

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).

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

6. The preparation/method blank for 1 analyte was outside 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.

   a). The MB result for Sodium was greater than the Practical Quantitation Limit (PQL) {3 x the (IDL) Instrument Detection Level} and samples J15W21 and J15W35 read less than 20 times the MB concentration. However, no corrective action criteria for MBs were provided in SW846 method 6010B. The sample results were reported herein "uncorrected" for the levels found in the MB.

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 4U pages.

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

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

9. The matrix spike (MS) recoveries for 3 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
J15W21	Aluminum	66,000	98.0
	Iron	66,000	112.7
	Silicon	6,300	90.2

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

11/9/07
Date

jjw/m10-095

LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

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

ot#: 07101095

eaching Procedure: __1310 __1311 __1312 __Other:_____

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

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

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
luminum	X6010B		__200.7				__99
ntimony	X6010B	__7041 [5]	__200.7	__204.2			__99
rsenic	X6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
arium	X6010B		__200.7				__99
eryllium	X6010B		__200.7				__99
ismuth	__6010B [1]		__200.7 [1]			__1620	__99
oron	X6010B		__200.7				__99
admium	X6010B	__7131A [5]	__200.7	__213.2			__99
alcium	X6010B		__200.7				__99
hromium	X6010B	__7191 [5]	__200.7	__218.2			__SS17
obalt	X6010B		__200.7				__99
opper	X6010B	__7211 [5]	__200.7	__220.2			__99
ron	X6010B		__200.7				__99
ead	X6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
ithium	__6010B	__7430 [4]	__200.7			__1620	__99
agnesium	X6010B		__200.7				__99
anganese	X6010B		__200.7				__99
ercury	__7470A [3]	X7471A [3]	__245.1 [2]	__245.5 [2]			__99
olybdenum	X6010B		__200.7				__99
ickel	X6010B		__200.7				__99
otassium	X6010B	__7610 [4]	__200.7	__258.1 [4]			__99
are Earths	__6010B [1]		__200.7 [1]			__1620	__99
elenium	X6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
ilicon	X6010B [1]		__200.7			__1620	__99
ilica	__6010B		__200.7			__1620	__99
ilver	X6010B	__7761 [5]	__200.7	__272.2			__99
odium	X6010B	__7770 [4]	__200.7	__273.1 [4]			__99
trontium	__6010B		__200.7				__99
hallium	__6010B	__7841 [5]	__200.7	__279.2	__200.9		__99
in	__6010B		__200.7				__99
itanium	__6010B		__200.7				__99
ranium	__6010B [1]		__200.7 [1]			__1620	__99
anadium	X6010B		__200.7				__99
inc	X6010B		__200.7				__99
irconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

L-WB-[illegible]
[illegible]

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 11/05/07

CLIENT: TNU-HANFORD RC-020 K1005

LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J15W21	Silver, Total	0.30 u	MG/KG	0.30	3.0
		Aluminum, Total	4910	MG/KG	12.0	3.0
		Arsenic, Total	1.8	MG/KG	1.5	3.0
		Boron, Total	1.6	MG/KG	1.5	3.0
		Barium, Total	49.4	MG/KG	0.30	3.0
		Beryllium, Total	0.15 u	MG/KG	0.15	3.0
		Calcium, Total	4880	MG/KG	12.0	3.0
		Cadmium, Total	0.30 u	MG/KG	0.30	3.0
		Cobalt, Total	5.3	MG/KG	0.60	3.0
		Chromium, Total	6.9	MG/KG	0.60	3.0
		Copper, Total	17.4	MG/KG	0.60	3.0
		Iron, Total	14100	MG/KG	13.4	3.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Potassium, Total	704	MG/KG	12.0	3.0
		Magnesium, Total	3490	MG/KG	7.5	3.0
		Manganese, Total	250	MG/KG	0.12	3.0
		Molybdenum, Total	0.90 u	MG/KG	0.90	3.0
		Sodium, Total	189	MG/KG	6.0	3.0
		Nickel, Total	8.7	MG/KG	0.60	3.0
		Lead, Total	3.0	MG/KG	0.90	3.0
		Antimony, Total	0.90 u	MG/KG	0.90	3.0
		Selenium, Total	1.8 u	MG/KG	1.8	3.0
		Silicon, Total	2080	MG/KG	12.0	3.0
		Vanadium, Total	32.7	MG/KG	0.42	3.0
		Zinc, Total	29.8	MG/KG	1.8	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J15W22	Silver, Total	0.29 u	MG/KG	0.29	3.0
		Aluminum, Total	7780	MG/KG	11.6	3.0
		Arsenic, Total	4.1	MG/KG	1.5	3.0
		Boron, Total	2.4	MG/KG	1.5	3.0
		Barium, Total	83.2	MG/KG	0.29	3.0
		Beryllium, Total	0.15 u	MG/KG	0.15	3.0
		Calcium, Total	6130	MG/KG	11.6	3.0
		Cadmium, Total	0.29 u	MG/KG	0.29	3.0
		Cobalt, Total	7.9	MG/KG	0.58	3.0
		Chromium, Total	10.8	MG/KG	0.58	3.0
		Copper, Total	20.6	MG/KG	0.58	3.0
		Iron, Total	23800	MG/KG	13.1	3.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Potassium, Total	1430	MG/KG	11.6	3.0
		Magnesium, Total	4840	MG/KG	7.3	3.0
		Manganese, Total	359	MG/KG	0.12	3.0
		Molybdenum, Total	0.87 u	MG/KG	0.87	3.0
		Sodium, Total	281	MG/KG	5.8	3.0
		Nickel, Total	13.6	MG/KG	0.58	3.0
		Lead, Total	6.8	MG/KG	0.87	3.0
		Antimony, Total	0.87 u	MG/KG	0.87	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	2510	MG/KG	11.6	3.0
		Vanadium, Total	44.5	MG/KG	0.41	3.0
		Zinc, Total	46.0	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J15W23	Silver, Total	0.39	MG/KG	0.29	3.0
		Aluminum, Total	9310	MG/KG	11.6	3.0
		Arsenic, Total	6.9	MG/KG	1.4	3.0
		Boron, Total	1.7	MG/KG	1.4	3.0
		Barium, Total	80.0	MG/KG	0.29	3.0
		Beryllium, Total	0.19	MG/KG	0.14	3.0
		Calcium, Total	6340	MG/KG	11.6	3.0
		Cadmium, Total	0.29 u	MG/KG	0.29	3.0
		Cobalt, Total	8.0	MG/KG	0.58	3.0
		Chromium, Total	19.7	MG/KG	0.58	3.0
		Copper, Total	21.1	MG/KG	0.58	3.0
		Iron, Total	23000	MG/KG	13.0	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1280	MG/KG	11.6	3.0
		Magnesium, Total	5080	MG/KG	7.2	3.0
		Manganese, Total	371	MG/KG	0.12	3.0
		Molybdenum, Total	0.87	MG/KG	0.87	3.0
		Sodium, Total	236	MG/KG	5.8	3.0
		Nickel, Total	17.6	MG/KG	0.58	3.0
		Lead, Total	7.2	MG/KG	0.87	3.0
		Antimony, Total	0.87 u	MG/KG	0.87	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	1280	MG/KG	11.6	3.0
		Vanadium, Total	48.6	MG/KG	0.41	3.0
		Zinc, Total	43.0	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J15W24	Silver, Total	0.30 u	MG/KG	0.30	3.0
		Aluminum, Total	9590	MG/KG	11.8	3.0
		Arsenic, Total	5.7	MG/KG	1.5	3.0
		Boron, Total	2.2	MG/KG	1.5	3.0
		Barium, Total	86.1	MG/KG	0.30	3.0
		Beryllium, Total	0.18	MG/KG	0.15	3.0
		Calcium, Total	8080	MG/KG	11.8	3.0
		Cadmium, Total	0.30 u	MG/KG	0.30	3.0
		Cobalt, Total	7.6	MG/KG	0.59	3.0
		Chromium, Total	16.3	MG/KG	0.59	3.0
		Copper, Total	21.2	MG/KG	0.59	3.0
		Iron, Total	22400	MG/KG	13.3	3.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Potassium, Total	1370	MG/KG	11.8	3.0
		Magnesium, Total	5160	MG/KG	7.4	3.0
		Manganese, Total	353	MG/KG	0.12	3.0
		Molybdenum, Total	0.89 u	MG/KG	0.89	3.0
		Sodium, Total	308	MG/KG	5.9	3.0
		Nickel, Total	15.8	MG/KG	0.59	3.0
		Lead, Total	6.5	MG/KG	0.89	3.0
		Antimony, Total	0.89 u	MG/KG	0.89	3.0
		Selenium, Total	1.8 u	MG/KG	1.8	3.0
		Silicon, Total	2090	MG/KG	11.8	3.0
		Vanadium, Total	49.5	MG/KG	0.41	3.0
		Zinc, Total	42.9	MG/KG	1.8	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	J15W25	Silver, Total	0.30 u	MG/KG	0.30	3.0
		Aluminum, Total	8390	MG/KG	11.9	3.0
		Arsenic, Total	5.0	MG/KG	1.5	3.0
		Boron, Total	2.7	MG/KG	1.5	3.0
		Barium, Total	107	MG/KG	0.30	3.0
		Beryllium, Total	0.15 u	MG/KG	0.15	3.0
		Calcium, Total	6140	MG/KG	11.9	3.0
		Cadmium, Total	0.30 u	MG/KG	0.30	3.0
		Cobalt, Total	7.3	MG/KG	0.60	3.0
		Chromium, Total	12.0	MG/KG	0.60	3.0
		Copper, Total	18.5	MG/KG	0.60	3.0
		Iron, Total	24000	MG/KG	13.4	3.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Potassium, Total	1480	MG/KG	11.9	3.0
		Magnesium, Total	4070	MG/KG	7.4	3.0
		Manganese, Total	346	MG/KG	0.12	3.0
		Molybdenum, Total	2.5	MG/KG	0.89	3.0
		Sodium, Total	278	MG/KG	6.0	3.0
		Nickel, Total	12.2	MG/KG	0.60	3.0
		Lead, Total	5.6	MG/KG	0.89	3.0
		Antimony, Total	0.89 u	MG/KG	0.89	3.0
		Selenium, Total	1.8 u	MG/KG	1.8	3.0
		Silicon, Total	1630	MG/KG	11.9	3.0
		Vanadium, Total	59.4	MG/KG	0.42	3.0
		Zinc, Total	41.9	MG/KG	1.8	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	J15W26	Silver, Total	0.29 u	MG/KG	0.29	3.0
		Aluminum, Total	8880	MG/KG	11.6	3.0
		Arsenic, Total	7.9	MG/KG	1.5	3.0
		Boron, Total	2.5	MG/KG	1.5	3.0
		Barium, Total	85.9	MG/KG	0.29	3.0
		Beryllium, Total	0.15 u	MG/KG	0.15	3.0
		Calcium, Total	10000	MG/KG	11.6	3.0
		Cadmium, Total	0.29 u	MG/KG	0.29	3.0
		Cobalt, Total	8.2	MG/KG	0.58	3.0
		Chromium, Total	18.3	MG/KG	0.58	3.0
		Copper, Total	24.0	MG/KG	0.58	3.0
		Iron, Total	23200	MG/KG	13.1	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1160	MG/KG	11.6	3.0
		Magnesium, Total	4800	MG/KG	7.3	3.0
		Manganese, Total	366	MG/KG	0.12	3.0
		Molybdenum, Total	0.97	MG/KG	0.87	3.0
		Sodium, Total	434	MG/KG	5.8	3.0
		Nickel, Total	18.3	MG/KG	0.58	3.0
		Lead, Total	5.9	MG/KG	0.87	3.0
		Antimony, Total	0.87 u	MG/KG	0.87	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	3030	MG/KG	11.6	3.0
		Vanadium, Total	52.7	MG/KG	0.41	3.0
		Zinc, Total	38.6	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	J15W27	Silver, Total	0.27 u	MG/KG	0.27	3.0
		Aluminum, Total	7760	MG/KG	10.6	3.0
		Arsenic, Total	4.0	MG/KG	1.3	3.0
		Boron, Total	2.1	MG/KG	1.3	3.0
		Barium, Total	75.7	MG/KG	0.27	3.0
		Beryllium, Total	0.13 u	MG/KG	0.13	3.0
		Calcium, Total	4410	MG/KG	10.6	3.0
		Cadmium, Total	0.27 u	MG/KG	0.27	3.0
		Cobalt, Total	7.4	MG/KG	0.53	3.0
		Chromium, Total	11.6	MG/KG	0.53	3.0
		Copper, Total	17.3	MG/KG	0.53	3.0
		Iron, Total	21000	MG/KG	11.9	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1490	MG/KG	10.6	3.0
		Magnesium, Total	4200	MG/KG	6.6	3.0
		Manganese, Total	324	MG/KG	0.11	3.0
		Molybdenum, Total	0.80 u	MG/KG	0.80	3.0
		Sodium, Total	225	MG/KG	5.3	3.0
		Nickel, Total	11.7	MG/KG	0.53	3.0
		Lead, Total	5.5	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	1670	MG/KG	10.6	3.0
		Vanadium, Total	43.9	MG/KG	0.37	3.0
		Zinc, Total	41.1	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020

LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-008	J15W28	Silver, Total	0.27 u	MG/KG	0.27	3.0
		Aluminum, Total	7450	MG/KG	10.8	3.0
		Arsenic, Total	4.3	MG/KG	1.4	3.0
		Boron, Total	2.1	MG/KG	1.4	3.0
		Barium, Total	75.2	MG/KG	0.27	3.0
		Beryllium, Total	0.14 u	MG/KG	0.14	3.0
		Calcium, Total	4920	MG/KG	10.8	3.0
		Cadmium, Total	0.27 u	MG/KG	0.27	3.0
		Cobalt, Total	7.3	MG/KG	0.54	3.0
		Chromium, Total	10.8	MG/KG	0.54	3.0
		Copper, Total	16.4	MG/KG	0.54	3.0
		Iron, Total	20400	MG/KG	12.2	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1510	MG/KG	10.8	3.0
		Magnesium, Total	4280	MG/KG	6.8	3.0
		Manganese, Total	331	MG/KG	0.11	3.0
		Molybdenum, Total	0.81 u	MG/KG	0.81	3.0
		Sodium, Total	232	MG/KG	5.4	3.0
		Nickel, Total	11.2	MG/KG	0.54	3.0
		Lead, Total	6.0	MG/KG	0.81	3.0
		Antimony, Total	0.81 u	MG/KG	0.81	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	2690	MG/KG	10.8	3.0
		Vanadium, Total	38.0	MG/KG	0.38	3.0
		Zinc, Total	41.9	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-009	J15W29	Silver, Total	0.30 u	MG/KG	0.30	3.0
		Aluminum, Total	10000	MG/KG	11.9	3.0
		Arsenic, Total	5.6	MG/KG	1.5	3.0
		Boron, Total	2.6	MG/KG	1.5	3.0
		Barium, Total	91.1	MG/KG	0.30	3.0
		Beryllium, Total	0.15 u	MG/KG	0.15	3.0
		Calcium, Total	5780	MG/KG	11.9	3.0
		Cadmium, Total	0.30 u	MG/KG	0.30	3.0
		Cobalt, Total	8.3	MG/KG	0.59	3.0
		Chromium, Total	14.4	MG/KG	0.59	3.0
		Copper, Total	19.9	MG/KG	0.59	3.0
		Iron, Total	24100	MG/KG	13.4	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1800	MG/KG	11.9	3.0
		Magnesium, Total	5800	MG/KG	7.4	3.0
		Manganese, Total	352	MG/KG	0.12	3.0
		Molybdenum, Total	0.89 u	MG/KG	0.89	3.0
		Sodium, Total	287	MG/KG	5.9	3.0
		Nickel, Total	18.2	MG/KG	0.59	3.0
		Lead, Total	5.8	MG/KG	0.89	3.0
		Antimony, Total	0.89 u	MG/KG	0.89	3.0
		Selenium, Total	1.8 u	MG/KG	1.8	3.0
		Silicon, Total	1070	MG/KG	11.9	3.0
		Vanadium, Total	49.9	MG/KG	0.42	3.0
		Zinc, Total	45.0	MG/KG	1.8	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-010	J15W30	Silver, Total	0.29 u	MG/KG	0.29	3.0
		Aluminum, Total	9150	MG/KG	11.5	3.0
		Arsenic, Total	5.1	MG/KG	1.4	3.0
		Boron, Total	2.4	MG/KG	1.4	3.0
		Barium, Total	86.5	MG/KG	0.29	3.0
		Beryllium, Total	0.14 u	MG/KG	0.14	3.0
		Calcium, Total	5440	MG/KG	11.5	3.0
		Cadmium, Total	0.29 u	MG/KG	0.29	3.0
		Cobalt, Total	7.9	MG/KG	0.58	3.0
		Chromium, Total	12.5	MG/KG	0.58	3.0
		Copper, Total	19.8	MG/KG	0.58	3.0
		Iron, Total	22600	MG/KG	13.0	3.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Potassium, Total	2020	MG/KG	11.5	3.0
		Magnesium, Total	5020	MG/KG	7.2	3.0
		Manganese, Total	338	MG/KG	0.12	3.0
		Molybdenum, Total	0.87 u	MG/KG	0.87	3.0
		Sodium, Total	212	MG/KG	5.8	3.0
		Nickel, Total	13.2	MG/KG	0.58	3.0
		Lead, Total	5.9	MG/KG	0.87	3.0
		Antimony, Total	0.87 u	MG/KG	0.87	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	2210	MG/KG	11.5	3.0
		Vanadium, Total	42.2	MG/KG	0.40	3.0
		Zinc, Total	42.0	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-011	J15W31	Silver, Total	0.28 u	MG/KG	0.28	3.0
		Aluminum, Total	6550	MG/KG	11.3	3.0
		Arsenic, Total	3.5	MG/KG	1.4	3.0
		Boron, Total	1.4 u	MG/KG	1.4	3.0
		Barium, Total	65.0	MG/KG	0.28	3.0
		Beryllium, Total	0.14 u	MG/KG	0.14	3.0
		Calcium, Total	4620	MG/KG	11.3	3.0
		Cadmium, Total	0.28 u	MG/KG	0.28	3.0
		Cobalt, Total	6.5	MG/KG	0.56	3.0
		Chromium, Total	10.4	MG/KG	0.56	3.0
		Copper, Total	15.3	MG/KG	0.56	3.0
		Iron, Total	18500	MG/KG	12.7	3.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Potassium, Total	1010	MG/KG	11.3	3.0
		Magnesium, Total	3660	MG/KG	7.1	3.0
		Manganese, Total	297	MG/KG	0.11	3.0
		Molybdenum, Total	0.85 u	MG/KG	0.85	3.0
		Sodium, Total	233	MG/KG	5.6	3.0
		Nickel, Total	11.3	MG/KG	0.56	3.0
		Lead, Total	4.5	MG/KG	0.85	3.0
		Antimony, Total	0.85 u	MG/KG	0.85	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	2670	MG/KG	11.3	3.0
		Vanadium, Total	35.0	MG/KG	0.40	3.0
		Zinc, Total	34.4	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-012	J15W32	Silver, Total	0.27 u	MG/KG	0.27	3.0
		Aluminum, Total	9390	MG/KG	11.0	3.0
		Arsenic, Total	4.6	MG/KG	1.4	3.0
		Boron, Total	2.5	MG/KG	1.4	3.0
		Barium, Total	89.8	MG/KG	0.27	3.0
		Beryllium, Total	0.14 u	MG/KG	0.14	3.0
		Calcium, Total	5970	MG/KG	11.0	3.0
		Cadmium, Total	0.33	MG/KG	0.27	3.0
		Cobalt, Total	8.6	MG/KG	0.55	3.0
		Chromium, Total	15.8	MG/KG	0.55	3.0
		Copper, Total	20.6	MG/KG	0.55	3.0
		Iron, Total	24800	MG/KG	12.4	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1680	MG/KG	11.0	3.0
		Magnesium, Total	5450	MG/KG	6.9	3.0
		Manganese, Total	363	MG/KG	0.11	3.0
		Molybdenum, Total	0.83	MG/KG	0.82	3.0
		Sodium, Total	247	MG/KG	5.5	3.0
		Nickel, Total	17.8	MG/KG	0.55	3.0
		Lead, Total	6.3	MG/KG	0.82	3.0
		Antimony, Total	0.82 u	MG/KG	0.82	3.0
		Selenium, Total	1.6 u	MG/KG	1.6	3.0
		Silicon, Total	1120	MG/KG	11.0	3.0
		Vanadium, Total	53.3	MG/KG	0.38	3.0
		Zinc, Total	48.7	MG/KG	1.6	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-013	J15W33	Silver, Total	0.30 u	MG/KG	0.30	3.0
		Aluminum, Total	8300	MG/KG	11.9	3.0
		Arsenic, Total	4.8	MG/KG	1.5	3.0
		Boron, Total	1.7	MG/KG	1.5	3.0
		Barium, Total	86.3	MG/KG	0.30	3.0
		Beryllium, Total	0.15 u	MG/KG	0.15	3.0
		Calcium, Total	10900	MG/KG	11.9	3.0
		Cadmium, Total	0.31	MG/KG	0.30	3.0
		Cobalt, Total	6.6	MG/KG	0.59	3.0
		Chromium, Total	13.5	MG/KG	0.59	3.0
		Copper, Total	18.4	MG/KG	0.59	3.0
		Iron, Total	20600	MG/KG	13.3	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1250	MG/KG	11.9	3.0
		Magnesium, Total	4930	MG/KG	7.4	3.0
		Manganese, Total	287	MG/KG	0.12	3.0
		Molybdenum, Total	0.89 u	MG/KG	0.89	3.0
		Sodium, Total	248	MG/KG	5.9	3.0
		Nickel, Total	12.8	MG/KG	0.59	3.0
		Lead, Total	6.5	MG/KG	0.89	3.0
		Antimony, Total	0.89 u	MG/KG	0.89	3.0
		Selenium, Total	1.8 u	MG/KG	1.8	3.0
		Silicon, Total	2390	MG/KG	11.9	3.0
		Vanadium, Total	41.0	MG/KG	0.41	3.0
		Zinc, Total	42.3	MG/KG	1.8	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-014	J15W34	Silver, Total	0.29 u	MG/KG	0.29	3.0
		Aluminum, Total	8180	MG/KG	11.6	3.0
		Arsenic, Total	5.7	MG/KG	1.4	3.0
		Boron, Total	1.4 u	MG/KG	1.4	3.0
		Barium, Total	74.6	MG/KG	0.29	3.0
		Beryllium, Total	0.14 u	MG/KG	0.14	3.0
		Calcium, Total	5930	MG/KG	11.6	3.0
		Cadmium, Total	0.31	MG/KG	0.29	3.0
		Cobalt, Total	7.4	MG/KG	0.58	3.0
		Chromium, Total	16.1	MG/KG	0.58	3.0
		Copper, Total	18.9	MG/KG	0.58	3.0
		Iron, Total	21400	MG/KG	13.0	3.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Potassium, Total	1170	MG/KG	11.6	3.0
		Magnesium, Total	4870	MG/KG	7.2	3.0
		Manganese, Total	339	MG/KG	0.12	3.0
		Molybdenum, Total	1.0	MG/KG	0.87	3.0
		Sodium, Total	228	MG/KG	5.8	3.0
		Nickel, Total	16.5	MG/KG	0.58	3.0
		Lead, Total	6.3	MG/KG	0.87	3.0
		Antimony, Total	0.87 u	MG/KG	0.87	3.0
		Selenium, Total	1.7 u	MG/KG	1.7	3.0
		Silicon, Total	1900	MG/KG	11.6	3.0
		Vanadium, Total	43.3	MG/KG	0.40	3.0
		Zinc, Total	43.9	MG/KG	1.7	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-015	J15W35	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	51.0	MG/KG	3.6	1.0
		Arsenic, Total	0.45 u	MG/KG	0.45	1.0
		Boron, Total	0.54	MG/KG	0.45	1.0
		Barium, Total	1.4	MG/KG	0.09	1.0
		Beryllium, Total	0.04 u	MG/KG	0.04	1.0
		Calcium, Total	28.9	MG/KG	3.6	1.0
		Cadmium, Total	0.09 u	MG/KG	0.09	1.0
		Cobalt, Total	0.18 u	MG/KG	0.18	1.0
		Chromium, Total	0.18 u	MG/KG	0.18	1.0
		Copper, Total	0.26	MG/KG	0.18	1.0
		Iron, Total	94.7	MG/KG	4.0	1.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	24.2	MG/KG	3.6	1.0
		Magnesium, Total	7.3	MG/KG	2.2	1.0
		Manganese, Total	3.3	MG/KG	0.04	1.0
		Molybdenum, Total	0.27 u	MG/KG	0.27	1.0
		Sodium, Total	11.6	MG/KG	1.8	1.0
		Nickel, Total	0.18 u	MG/KG	0.18	1.0
		Lead, Total	0.35	MG/KG	0.27	1.0
		Antimony, Total	0.27 u	MG/KG	0.27	1.0
		Selenium, Total	0.54 u	MG/KG	0.54	1.0
		Silicon, Total	76.3	MG/KG	3.6	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	2.1	MG/KG	0.54	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	07L0548-MB1	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	3.7 u	MG/KG	3.7	1.0
		Arsenic, Total	0.47 u	MG/KG	0.47	1.0
		Boron, Total	0.47 u	MG/KG	0.47	1.0
		Barium, Total	0.09 u	MG/KG	0.09	1.0
		Beryllium, Total	0.05 u	MG/KG	0.05	1.0
		Calcium, Total	11.6	MG/KG	3.7	1.0
		Cadmium, Total	0.09 u	MG/KG	0.09	1.0
		Cobalt, Total	0.19 u	MG/KG	0.19	1.0
		Chromium, Total	0.19 u	MG/KG	0.19	1.0
		Copper, Total	0.30	MG/KG	0.19	1.0
		Iron, Total	7.9	MG/KG	4.2	1.0
		Potassium, Total	3.7 u	MG/KG	3.7	1.0
		Magnesium, Total	2.4	MG/KG	2.3	1.0
		Manganese, Total	0.25	MG/KG	0.04	1.0
		Molybdenum, Total	0.28 u	MG/KG	0.28	1.0
		Sodium, Total	9.5	MG/KG	1.9	1.0
		Nickel, Total	0.19 u	MG/KG	0.19	1.0
		Lead, Total	0.28 u	MG/KG	0.28	1.0
		Antimony, Total	0.28 u	MG/KG	0.28	1.0
		Selenium, Total	0.56 u	MG/KG	0.56	1.0
		Silicon, Total	3.7 u	MG/KG	3.7	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	0.68	MG/KG	0.56	1.0
BLANK1	07C0200-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020

LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J15W21	Silver, Total	4.7	0.30u	5.0	94.0	3.0
		Aluminum, Total	6100	4910	199	597.6*	3.0
		Arsenic, Total	183	1.8	199	91.2	3.0
		Boron, Total	93.8	1.6	99.6	92.6	3.0
		Barium, Total	238	49.4	199	94.7	3.0
		Beryllium, Total	4.6	0.15u	5.0	92.0	3.0
		Calcium, Total	7960	4880	2490	124.0	3.0
		Cadmium, Total	4.7	0.30u	5.0	94.0	3.0
		Cobalt, Total	52.2	5.3	49.8	94.2	3.0
		Chromium, Total	26.5	6.9	19.9	98.5	3.0
		Copper, Total	41.0	17.4	24.9	94.8	3.0
		Iron, Total	16700	14100	99.6	2668 *	3.0
		Mercury, Total	0.17	0.02u	0.15	109.7	1.0
		Potassium, Total	2930	704	2490	89.4	3.0
		Magnesium, Total	6190	3490	2490	108.3	3.0
		Manganese, Total	309	250	49.8	117.3*	3.0
		Molybdenum, Total	90.0	0.90u	99.6	90.4	3.0
		Sodium, Total	2610	189	2490	97.2	3.0
		Nickel, Total	55.0	8.7	49.8	93.0	3.0
		Lead, Total	47.9	3.0	49.8	90.2	3.0
		Antimony, Total	38.1	0.90u	49.8	76.5	3.0
		Selenium, Total	157	1.8 u	199	79.0	3.0
		Silicon, Total	2330	2080	99.6	249.3*	3.0
		Vanadium, Total	84.1	32.7	49.8	103.2	3.0
		Zinc, Total	79.7	29.8	49.8	100.2	3.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020

LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J15W21	Silver, Total	0.30u	0.30u	NC	3.0
		Aluminum, Total	4910	5100	3.7	3.0
		Arsenic, Total	1.8	2.3	24.4	3.0
		Boron, Total	1.6	1.5 u	~~NC~~ 200 corrected value pw 11/8/07	3.0
		Barium, Total	49.4	44.6	10.2	3.0
		Beryllium, Total	0.15u	0.15u	NC	3.0
		Calcium, Total	4880	4850	0.64	3.0
		Cadmium, Total	0.30u	0.30u	NC	3.0
		Cobalt, Total	5.3	5.7	7.3	3.0
		Chromium, Total	6.9	8.0	14.8	3.0
		Copper, Total	17.4	17.0	2.3	3.0
		Iron, Total	14100	16600	16.2	3.0
		Mercury, Total	0.02u	0.01u	NC	1.0
		Potassium, Total	704	710	0.79	3.0
		Magnesium, Total	3490	3560	1.9	3.0
		Manganese, Total	250	252	0.64	3.0
		Molybdenum, Total	0.90u	0.90u	NC	3.0
		Sodium, Total	189	216	13.4	3.0
		Nickel, Total	8.7	8.8	1.1	3.0
		Lead, Total	3.0	2.5	18.2	3.0
		Antimony, Total	0.90u	0.90u	NC	3.0
		Selenium, Total	1.8 u	1.8 u	NC	3.0
		Silicon, Total	2080	2060	0.89	3.0
		Vanadium, Total	32.7	39.4	18.6	3.0
		Zinc, Total	29.8	29.0	2.7	3.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 11/05/07

CLIENT: TNU-HANFORD RC-020 LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	07L0548-LC1	Silver, LCS	45.9	50.0	MG/KG	91.8
		Aluminum, LCS	467	500	MG/KG	93.5
		Arsenic, LCS	872	1000	MG/KG	87.2
		Boron, LCS	442	500	MG/KG	88.5
		Barium, LCS	465	500	MG/KG	93.0
		Beryllium, LCS	22.7	25.0	MG/KG	90.8
		Calcium, LCS	2280	2500	MG/KG	91.2
		Cadmium, LCS	22.3	25.0	MG/KG	89.2
		Cobalt, LCS	229	250	MG/KG	91.8
		Chromium, LCS	45.7	50.0	MG/KG	91.4
		Copper, LCS	118	125	MG/KG	94.4
		Iron, LCS	484	500	MG/KG	96.9
		Potassium, LCS	2240	2500	MG/KG	89.5
		Magnesium, LCS	2240	2500	MG/KG	89.6
		Manganese, LCS	69.9	75.0	MG/KG	93.2
		Molybdenum, LCS	436	500	MG/KG	87.2
		Sodium, LCS	2300	2500	MG/KG	92.2
		Nickel, LCS	180	200	MG/KG	90.2
		Lead, LCS	225	250	MG/KG	90.1
		Antimony, LCS	261	300	MG/KG	87.0
		Selenium, LCS	836	1000	MG/KG	83.6
		Silicon, LCS	422	500	MG/KG	84.4
		Vanadium, LCS	231	250	MG/KG	92.4
		Zinc, LCS	90.1	100	MG/KG	90.1
LCS1	07C0200-LC1	Mercury, LCS	4.9	4.7	MG/KG	103.8

nville Laboratory Use Only

07101095

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

nt TNU Hanford RC-020

Final Proj. Sampling Date

ject# 11343-606-001999-00

ject Contact/Phone#

nville Laboratory Project Manager Orletta Johnson

SW846 Del STD TAT 15 Days

e Rec'd 10-24-07 Date Due 11-8-07

		A						B		C					
Refrigerator #		3						3		3					
#/Type Container	Liquid														
	Solid	1pl						1pl		1pl					
Volume	Solid	250						250		125					
Preservatives		1													
ANALYSES REQUESTED		ORGANIC						INORG							
		VOA	BNA	Pest/PCB	Herb			Metal	Hg	CN	Cr+6				
Lionville Laboratory Use Only			0625H					metO			ICP6				

RIX
EB:
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													
001	J15W21			S	10-22-07	1005		X						X		X			
002	J15W22					1020		X						X		X			
003	J15W23					1040		X						X		X			
004	J15W24					1055		X						X		X			
005	J15W25					1215		X						X		X			
006	J15W26					1235		X						X		X			
007	J15W27					1250		X						X		X			
008	J15W28					1310		X						X		X			
009	J15W29					1325		X						X		X			
010	J15W30					1350		X						X		X			

cial Instructions:

mat ① = HSL + B, mo, S;
(NOTL)

Special Instructions:

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

Relinquished by	Received by	Date	Time
Ex	[signature]	10-24-07	10:00

Relinquished by	Received by	Date	Time

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

000000838

onville Laboratory Use Only
0710L095

Custody Transfer Record/Lab Work Request

Page 8 of 8

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

ent TNU Hanford BC-030
. Final Proj. Sampling Date
ject#
ject Contact/Phone#
nville Laboratory Project Manager Delitha Johnson
Del TAT 15 Days
te Rec'd 10.24.07 Date Due

		A						B		C				
Refrigerator #		3						3		3				
#/Type Container	Liquid													
	Solid	1pl						1pl	1gl	1pl				
Volume	Solid	250						250		125				
Preservatives		—						—		—				
ANALYSES REQUESTED →		ORGANIC						INORG						
		VOA	BNA	Pest/PCB	Herb			Metal + Hg	CN	Cr6				
		Lionville Laboratory Use Only												
			062544					Metal		ICP6				

TRIX DES: 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	031	J15W31			S	10.22.07	1430		X					X		X				
012	032	J15W32					1450		X					X		X				
013	033	J15W33					1505		X					X		X				
014	034	J15W34					1045		X					X		X				
015	035	J15W35					1025		X					X	—	X				
10.24.07																	10.24.07			

ecial Instructions:

Special Instructions:

1.
2.
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5.
6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	10.24.07	10:00

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000039

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-020-085	Page 1 of 3

Collector: C. Martinez / T. Welsh-Koelling	Company Contact: C. Martinez	Telephone No.: 509-539-2816	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 15 days		
Project Designation: 100-BC Burial Grounds - Soil Full Protocol	Sampling Location: 100-B-21:2 (2-in asbestos line)		SAF No.: RC-020
Ice Chest No.: AFS-04-123	Field Logbook No.: EFL1173-14	COA: R10B212000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080048		Bill of Lading/Air Bill No.: see OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS
None

Special Handling and/or Storage
None

Preservation	None	Cool 4C	Cool 4C	None	None						
Type of Container	G/P	G/P	aG	G/P	aG						
No. of Container(s)	1	1	1	1	1						
Volume	250mL	125mL	250mL	500mL	60mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions	Gross Alpha & Gross Beta						
Sample No. / Matrix * / Sample Date / Sample Time											
15W21 / SOIL / 10/22/07 / 1005	✓	✓	✓								
15W22 / SOIL / 1020	✓	✓	✓								
15W23 / SOIL / 1040	✓	✓	✓								
15W24 / SOIL / 1055	✓	✓	✓								
15W25 / SOIL / 10/22/07 / 1215	✓	✓	✓								

10/22/07

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By/Removed From	Received By/Stored In	1515
[illegible]	C. Martinez / C. Martinez	10/22/07
Relinquished By/Removed From	Received By/Stored In	1630
C. Martinez / C. Martinez	3728 2B	10/22/07
Relinquished By/Removed From	Received By/Stored In	
3728 2B	[illegible]	10-23-07 0930
Relinquished By/Removed From	Received By/Stored In	
[illegible]	FED EX	
Relinquished By/Removed From	Received By/Stored In	
FED EX	[illegible]	10-24-07 / 10:00
Relinquished By/Removed From	Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (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 - 7470 - (CV)
(2) ~~Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on (Silver-108 metastable)~~ 10/22/07

Sampler unavailable to relinquish samples from 3728 Ref # 2B
Custodian removed samples for shipping on 10/23/07.

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

CH-EE 011

9999999999

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-020-085 | Page 2 of 3

Collector: C. Martinez / T. Welsh-Koelling	Company Contact: C. Martinez	Telephone No.: 509-539-2816	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 15 days		
Project Designation: 100-BC Burial Grounds - Soil Full Protocol	Sampling Location: 100-B-21:2 (2-in asbestos line)		SAF No.: RC-020
Ice Chest No.: AFS-04-123	Field Logbook No.: EFL1173-14	COA: R10B212000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080048		Bill of Lading/Air Bill No.: see OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

None

Preservation	None	Cool 4C	Cool 4C	None	None						
Type of Container	G/P	G/P	aG	G/P	aG						
No. of Container(s)	1	1	1	1	1						
Volume	250mL	125mL	250mL	500mL	60mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions.	Gross Alpha & Gross Beta						

Sample No.	Matrix *	Sample Date	Sample Time										
J15W26	SOIL	10/22/07	1235	✓	✓	✓							
J15W27	SOIL		1250	✓	✓	✓							
J15W28	SOIL		1310	✓	✓	✓							
J15W29	SOIL		1325	✓	✓	✓							
J15W30	SOIL	10/22/07	1350	✓	✓	✓							

CHAIN OF POSSESSION

Sign/Print Names			
Relinquished By: Removed From	Date/Time 10/22/07 1515	Received By/Stored In	Date/Time 1515
Relinquished By: Removed From	Date/Time 1430	Received By/Stored In: C. Martinez / C. Martinez 10/22/07	Date/Time 1630
Relinquished By: Removed From: C. Martinez / C. Martinez 10/22/07	Date/Time	Received By/Stored In: 3728 2B 10/22/07	Date/Time
Relinquished By: Removed From: 3728 2B 10-23-07	Date/Time 0930	Received By/Stored In: KM Singleton 10-23-07	Date/Time 0930
Relinquished By: Removed From: KM Singleton 10-23-07	Date/Time LOCH 1500	Received By/Stored In: FED EX	Date/Time
Relinquished By: Removed From: FED EX	Date/Time 10-24-07 1000	Received By/Stored In: [illegible]	Date/Time 10-24-07 1000
Relinquished By: Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (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 - 7470 - (CV)
(2) ~~Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Silver-108 metastable}~~ 10/22/07

Sampler unavailable to relinquish samples from 3728 Ref # 2B. 3728 Custodian removed samples for shipping on 10/23/07.

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

CCN FF-011

899999941

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-020-085 | Page 1 of 1

Collector: C. Martinez \T. welsh-Koelling	Company Contact: C. Martinez	Telephone No.: 509-539-2816	Project Coordinator: KESSNER, JH
Project Designation: 100-BC Burial Grounds - Soil Full Protocol	Sampling Location: 100-B-21:2 (2-in asbestos line)		SAF No.: RC-020
Ice Chest No.: AFS-04-123	Field Logbook No.: EFL1173-14	COA: R10B212000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A080048		Bill of Lading/Air Bill No.: see OSPC

Price Code: 8L

Data Turnaround: 15 days

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

None

Preservation	None	Cool 4C	Cool 4C	None	None	
Type of Container	G/P	G/P	aG	G/P	aG	
No. of Container(s)	1	1	1	1	1	
Volume	250mL	125mL	250mL	500mL	60mL	
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions.	Gross Alpha & Gross Beta	

Sample No.	Matrix *	Sample Date	Sample Time										
15W31	SOIL	10/22/07	1430	✓	✓	✓							
15W32	SOIL		1450	✓	✓	✓							
15W33	SOIL		1505	✓	✓	✓							
15W34	SOIL		1045	✓	✓	✓							
15W35	SOIL	10/22/07	1025	✓	N/A	✓							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	10/22/07 1515	c. martinez/c. martinez	10/22/07 1515
c. martinez/c. martinez	10/22/07 1630	3728 2B	10/22/07 1630
3728 2B	10-23-07 0930	[signature]	10-23-07 0930
[signature]	10-23-07 1500	FED EX	
[signature]	10-24-07 1000	[signature]	10-24-07 1000

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (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 - 7470 - (CV)

(2) ~~Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Silver-108 metastable}~~ CW 10/22/07

Sampler unavailable to relinquish samples from 3728 Ref # 2B. 3728 Custodian removed samples for shipping on 10/23/07.

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-11

888888842

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford

Project/SAF/SOW/Release #: RC.020

Date: 10.24.07

LvLI Batch #: 0710L095

Sample Custodian: D Yanish

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier: Fed Ex		Airbill # 7992 0924 20
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 1.9 °C		Cooler # AFS.04.123
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, TDC, 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
Incorporated

MERCURY PREPARATION

Logbook # 0326

Analyst: RB
Date 11/1/07
Start Time/Temp: 1225 / 92°
End Time/Temp: 1255 / 94°

Instrument ID 1631/32
Balance #: B29 /NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 07C0200
Worksheet: HG110101/02
OP 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	H.			10mL	50mL	
0.2 µg/L	N4	0.100				
1.0	478	0.500				
2.0	OF	1.000				
5.0	G8	2.500				
10.0	N60	5.000				
ICV	B32	0.125	2.5			
CCV	3H	0.250	5.0			
ICB/CCB	CM					% SOL
MBI	CX			0.30		PBS100 100.00
LCI	3P	*	*	0.32		LCSS100
0710L125-001	CA			0.33		R
001R	PC			0.35		
001S	I4	0.500	1.0	0.33		
0710L095-001	B4			0.33		98.40
001R	SD8			0.35		
001S	GD	0.500	1.0	0.33		
002	TR			0.33		97.29
003	194			0.36		95.91
004	A94			0.33		97.36
005	L53			0.31		97.82
006	NB			0.37		98.29
007	76			0.35		98.21
008	871			0.37		97.86
009	IC			0.36		98.85
010	LV			0.33		98.06
011	A3			0.30		98.36

Standard:	ID	Prep Date/Time
CAL/MS	R16072-25-07B	11/1/07 0945
CV/CCV/LCS	US 6072-25-08A	

Reviewed By/Date: [signature] 11/8/07

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 #:

Lionville Laboratory Incorporated

MERCURY PREPARATION

Logbook # 0326

Analyst: EB
Date: 11/1/07
Start Time/Temp: see page 035
End Time/Temp:

Instrument ID: HG3.1/3.2
Balance #: B29 / NA
Pipette Calibration (Daily) Y ✓

Prep Batch: 0700200
Worksheet: HG110101/02
OP 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.
0710L095-012	857			0.40	50mL	97.60
013	JS			0.38		98.37
014	B6			0.30		96.13
015	ET			0.39		99.99
0710L098-001	A1			0.34		98.70
001R	K35			0.36		
001S	88	0.500	1.0	0.34		

EB 11/1/07

Standard:	ID	Prep Date/Time
CAL/MS		
CV/CCV/LCS	See page 035	

Reviewed By/Date: [signature] 11/8/07

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 #:

Lionville Laboratory Incorporated Logbook #: DX ✓

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 07L054B
Date/Time Initiated: 10/25/07 11:10AM
Date/Time Completed: 10/25/07 2:23PM
Analyst(s): MW/KMC
Matrix: (Soil) Water Other: _____
Instr. Type: AA (ICP)
Parameters: See backlog

(Digested) / Undigested (circle one)
Balance #: 150
Balance Cal Verif: (Y) NA
Hot Plate Temp: 90°

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

DW 200.7 (1994)
200.9
3113B
MCAWW 200.7 (1982)
200 (AA)
206.2 (As/Se)
SM 3030C (NC)
CLP ILMO3.0
ILMO4.0
Other _____

TWU

*KMC WE 10/25/07

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
07L095-001		1.02g	100mL	N/A	TO	Artifin	yellow tint* transparent	Stones	N/A
-001R		1.03g							
-001S	1.0mL	1.02g							
-002		1.08g							
-003		1.05g							
-004		1.04g							
-005		1.03g							
-006		1.05g							
-007		1.15g							
-008		1.13g							
-009		1.03g							
-010		1.08g							
-011		1.08g							
-012		1.12g							
-013		1.03g							
-014		1.08g							
-015		1.12g							
07L054B-MB1		1.02g				N/A	Stones Boiling chips	N/A	
-CC1	1.0mL	1g							

KMC 10/25/07

Spiking IDs:
MS #: 8100-04-01
-02
-03
6022-027 -04 01
LCS #: -02
-03
-04
-05

Reagent IDs:
HNO_3 E11023
HCL E21053
H_2O_2 E2CA04
1:1 HNO_3 9789-066-01
1:1 HCL

File ID#: IC054801
LIMS Transfer: (Y) N UPdated
Data Review By/Date: PMP, 10/26/07

IE, PMP 10-26-07

RECEIVED
NOV 2007

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020 K1005

DATE RECEIVED: 10/24/07 LVL LOT # :07101095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J15W21						
% SOLIDS	001	S	07L%S133	10/22/07	10/25/07	10/25/07
% SOLIDS	001 REP	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	001	S	07LVI086	10/22/07	10/25/07	10/25/07
CHROMIUM VI	001 REP	S	07LVI086	10/22/07	10/25/07	10/25/07
CHROMIUM VI	001 MS	S	07LVI086	10/22/07	10/25/07	10/25/07
CHROMIUM VI	001 MSD	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W22						
% SOLIDS	002	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	002	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W23						
% SOLIDS	003	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	003	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W24						
% SOLIDS	004	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	004	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W25						
% SOLIDS	005	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	005	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W26						
% SOLIDS	006	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	006	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W27						
% SOLIDS	007	S	07L%S133	10/22/07	10/25/07	10/25/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020

DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM VI	007	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W28						
% SOLIDS	008	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	008	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W29						
% SOLIDS	009	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	009	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W30						
% SOLIDS	010	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	010	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W31						
% SOLIDS	011	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	011	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W32						
% SOLIDS	012	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	012	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W33						
% SOLIDS	013	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	013	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W34						
% SOLIDS	014	S	07L%S133	10/22/07	10/25/07	10/25/07
CHROMIUM VI	014	S	07LVI086	10/22/07	10/25/07	10/25/07
J15W35						
% SOLIDS	015	S	07L%S133	10/22/07	10/25/07	10/25/07

AB QC:

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-020

DATE RECEIVED: 10/24/07 LVL LOT # :0710L095

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM VI	MB1	S	07LVI086	N/A	10/25/07	10/25/07
CHROMIUM VI	MB1 BS	S	07LVI086	N/A	10/25/07	10/25/07
CHROMIUM VI	MB1 BSD	S	07LVI086	N/A	10/25/07	10/25/07

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-020
LVL#: 0710L095

W.O.#: 11343-606-001-9999-00
Date Received: 10-24-07

INORGANIC NARRATIVE

1. This narrative covers the analyses of 15 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 for Chromium VI was within the method criteria.

6. The Laboratory Control Samples (LCS) for Chromium VI were within the laboratory control limits.

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

8. The replicate analyses for Percent Solids and Chromium VI were within the 20% Relative Percent Difference (RPD) control limit.

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

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

11/1/07

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

Date

njp\i10-095

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 17 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	__ EPA 418.1
pH, Soil		__ 9045C	
Sulfide, Reactive		__ Section 7.3/9030B	
Sulfide		__ 9030B(mod)	
Specific Gravity	__ D1429-76C/	__ D5057-90	
Sulfur, Total		__ 9056	
Synthetic Preparation Leach		__ 1312	
Paint Filter		__ 9095A	
Other:	**Method:**		
Other:	**Method**		

L-WI-034/B-01/01

Lionville Laboratory Incorporated

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

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

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

ABBREVIATIONS

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

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

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

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

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

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

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

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

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

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

f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 10/29/07

CLIENT: TNU-HANFORD RC-020
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0710L095

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J15W21	% Solids	98.4	%	0.01	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
-002	J15W22	% Solids	97.3	%	0.01	1.0
		Chromium VI	0.21 u	MG/KG	0.21	1.0
-003	J15W23	% Solids	95.9	%	0.01	1.0
		Chromium VI	0.23	MG/KG	0.21	1.0
-004	J15W24	% Solids	97.4	%	0.01	1.0
		Chromium VI	0.27	MG/KG	0.20	1.0
-005	J15W25	% Solids	97.8	%	0.01	1.0
		Chromium VI	0.32	MG/KG	0.20	1.0
-006	J15W26	% Solids	98.3	%	0.01	1.0
		Chromium VI	0.23	MG/KG	0.20	1.0
-007	J15W27	% Solids	98.2	%	0.01	1.0
		Chromium VI	0.31	MG/KG	0.20	1.0
-008	J15W28	% Solids	97.9	%	0.01	1.0
		Chromium VI	0.29	MG/KG	0.20	1.0
-009	J15W29	% Solids	98.0	%	0.01	1.0
		Chromium VI	0.22	MG/KG	0.20	1.0
-010	J15W30	% Solids	98.1	%	0.01	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 10/29/07

CLIENT: TNU-HANFORD RC-020

LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-011	J15W31	% Solids	98.4	%	0.01	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
-012	J15W32	% Solids	97.6	%	0.01	1.0
		Chromium VI	0.20 u	MG/KG	0.20	1.0
-013	J15W33	% Solids	98.3	%	0.01	1.0
		Chromium VI	0.26	MG/KG	0.20	1.0
-014	J15W34	% Solids	96.1	%	0.01	1.0
		Chromium VI	0.21 u	MG/KG	0.21	1.0
-015	J15W35	% Solids	100	%	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 10/29/07

CLIENT: TNU-HANFORD RC-020

LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	07LVI086-MB1	Chromium VI	0.20 u	MG/KG	0.20	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 10/29/07

CLIENT: TNU-HANFORD RC-020

LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J15W21	Soluble Chromium VI	4.4	0.20u	4.1	108.0	1.0
		Insoluble Chromium VI	1180	0.20u	1200	98.1	100
BLANK10	07LVI086-MB1	Soluble Chromium VI	4.0	0.20u	4.0	99.4	1.0
		Insoluble Chromium VI	1130	0.20u	1110	101.8	100

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 10/29/07

CLIENT: TNU-HANFORD RC-020

LVL LOT #: 0710L095

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J15W21	% Solids	98.4	98.5	0.081	1.0
		Chromium VI	0.20u	0.20u	NC	1.0

nville Laboratory Use Only

07101095

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

000000012

nt TNU Hanford RC-020

Final Proj. Sampling Date

ject# 11343-606-001999-00

ject Contact/Phone#

nville Laboratory Project Manager Arlette Johnson

SW846 Del STD TAT 15 Days

e Rec'd 10-24-07 Date Due 11-8-07

		A						B		C					
Refrigerator #		3						3		3					
#/Type Container	Liquid														
	Solid	1pl						1pl		1pl					
Volume	Solid	250						250		125					
Preservatives		—						—		—					
ANALYSES REQUESTED →		ORGANIC						INORG							
		VOA	BNA	Pest/PCB	Herb			Metals	CN	Cr+6					
Lionville Laboratory Use Only			8270					MET		ICP6					

Matrix (DESI): 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												
	001	J15W21			S	10.22.07	1005		X					X		X			
	002	J15W22					1020		X					X		X			
	003	J15W23					1040		X					X		X			
	004	J15W24					1055		X					X		X			
	005	J15W25					1215		X					X		X			
	006	J15W26					1235		X					X		X			
	007	J15W27					1250		X					X		X			
	008	J15W28					1310		X					X		X			
	009	J15W29					1325		X					X		X			
	010	J15W30					1350		X					X		X			

Special Instructions:

mat ① = HSL + B, mo, S; (NOTL)

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	10-24-07	10:00

Relinquished by	Received by	Date	Time

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

nville Laboratory Use Only

0710L095

Custody Transfer Record/Lab Work Request

Page ___ of ___

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

000000013

nt TNU Hanford BC-020

. Final Proj. Sampling Date

ject#

ject Contact/Phone#

nville Laboratory Project Manager Dilletta Johnson

Del TAT 15 Days

e Rec'd 10.24.07 Date Due

		A						B		C				
Refrigerator #		3						3		3				
#/Type Container	Liquid / Solid	1pl						1pl / 1gl		1pl				
Volume	Solid	250						250		125				
Preservatives		—						—		—				
ANALYSES REQUESTED		ORGANIC						INORG						
		VOA	BNA	Pest/PCB	Herb			Metal + Hg	CN	Cr+6				
			Lionville Laboratory Use Only											
			062544					Metal		ICP6				

RIX ES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected													
Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, EP/TCLP, Leachate, Wipe, Other, Fish	011 051	J15W31			S	10.24.07	1430		X					X		X				
	012 052	J15W32			|	|	1450		X					X		X				
	013 053	J15W33			|	|	1505		X					X		X				
	014 054	J15W34			|	|	1045		X					X		X				
	015 055	J15W35			|	|	1025		X					X	—	X			
10.24.07																	10.24.07			

ecial Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[signature]	10.24.07	10:00

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-020-085	Page 1 of 3

ollector C. Martinez / T. Welsh-Koelling	Company Contact C. Martinez	Telephone No. 509-539-2816	Project Coordinator KESSNER, JH
Price Code 8L	Data Turnaround 15 days		
roject Designation 100-BC Burial Grounds - Soil Full Protocol	Sampling Location 100-B-21:2 (2-in asbestos line)		SAF No. RC-020
e Chest No. AFS-04-123	Field Logbook No. EFL1173-14	COA R10B212000	Method of Shipment FED EX
hipped To EBERLINE SERVICES/ LIONVILLE	Offsite Property No. A080048		Bill of Lading/Air Bill No. see OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

None

Preservation	None	Cool 4C	Cool 4C	None	None						
Type of Container	G/P	G/P	aG	G/P	aG						
No. of Container(s)	1	1	1	1	1						
Volume	250mL	125mL	250mL	500mL	60mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions.	Gross Alpha & Gross Beta						
Sample No. / Matrix * / Sample Date / Sample Time											
15W21 / SOIL / 10/22/07 / 1005	✓	✓	✓								
15W22 / SOIL / / 1020	✓	✓	✓								
15W23 / SOIL / / 1040	✓	✓	✓								
15W24 / SOIL / / 1055	✓	✓	✓								
15W25 / SOIL / 10/22/07 / 1215	✓	✓	✓								

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From [illegible]	10/22/07 1515	Received By/Stored In c.martinez/c.martinez	1515 10/22/07
Relinquished By/Removed From c.martinez/c.martinez	10/22/07 1630	Received By/Stored In 3728 2B	1630 10/22/07
Relinquished By/Removed From 3728 2B	10-23-07 0930	Received By/Stored In [illegible]	10-23-07 0930
Relinquished By/Removed From [illegible]	10-23-07 1500	Received By/Stored In FED EX	
Relinquished By/Removed From [illegible]	10-24-07 10:00	Received By/Stored In [illegible]	10-24-07 10:00
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (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 - 7470 - (CV)
(2) ~~Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on (Silver-108 metastable)~~ 10/22/07

Sampler unavailable to relinquish samples from 3728 Ref # 2B
Custodian removed samples for shipping on 10/23/07.

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-020-085 | Page 2 of 3

Collector: C. Martinez / T. Welsh-Koelling	Company Contact: C. Martinez	Telephone No.: 509-539-2816	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 15 days		
Project Designation: 100-BC Burial Grounds - Soil Full Protocol	Sampling Location: 100-B-21:2 (2-in asbestos line)		SAF No.: RC-020
Ice Chest No.: AFS-04-123	Field Logbook No.: EFL1173-14	COA: R10B212000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080048		Bill of Lading/Air Bill No.: see OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

None

Preservation	None	Cool 4C	Cool 4C	None	None							
Type of Container	G/P	G/P	aG	G/P	aG							
No. of Container(s)	1	1	1	1	1							
Volume	250mL	125mL	250mL	500mL	60mL							
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions.	Gross Alpha & Gross Beta							
Sample No. / Matrix * / Sample Date / Sample Time												
J15W26 / SOIL / 10/22/07 / 1235	✓	✓	✓									
J15W27 / SOIL / " / 1250	✓	✓	✓									
J15W28 / SOIL / " / 1310	✓	✓	✓									
J15W29 / SOIL / " / 1325	✓	✓	✓									
J15W30 / SOIL / 10/22/07 / 1350	✓	✓	✓									

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	10/22/07 1515	C. Martinez / C. Martinez	1515 10/22/07
C. Martinez / C. Martinez	10/22/07 1630	3728 2B	1630 10/22/07
3728 2B	10-23-07 0930	[illegible]	10-23-07 0930
[illegible]	10-23-07 1500	FED EX	
[illegible]	10-24-07 1000	[illegible]	10-24-07 1000

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Chem 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 - 7470 - (CV)
(2) ~~Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Silver-108 metastable}~~ [illegible] 10/22/07

Sampler unavailable to relinquish samples from 3728 Ref# 2B. 3728 Custodian removed samples for shipping on 10/23/07.

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

000000015

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-020-085 | Page 3 of 3

Collector: C. Martinez \T. Welsh-Koelling	Company Contact: C. Martinez	Telephone No.: 509-539-2816	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 15 days		
Project Designation: 100-BC Burial Grounds - Soil Full Protocol	Sampling Location: 100-B-21:2 (2-in asbestos line)		SAF No.: RC-020
Ice Chest No.: AFS-04-123	Field Logbook No.: EFL1173-14	COA: R10B212000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A080048		Bill of Lading/Air Bill No.: see OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS: None

Special Handling and/or Storage: None

Preservation	None	Cool 4C	Cool 4C	None	None						
Type of Container	G/P	G/P	aG	G/P	aG						
No. of Container(s)	1	1	1	1	1						
Volume	250mL	125mL	250mL	500mL	60mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions.	Gross Alpha & Gross Beta						

Sample No.	Matrix *	Sample Date	Sample Time										
5W31	SOIL	10/22/07	1430	✓	✓	✓							
5W32	SOIL		1450	✓	✓	✓							
5W33	SOIL		1505	✓	✓	✓							
5W34	SOIL		1045	✓	✓	✓							
5W35	SOIL	10/22/07	1025	✓	N/A	✓							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 10/22/07 1515	Received By/Stored In: c-martinez/c-martinez 10/22/07	Date/Time 1515
Relinquished By/Removed From: martinez/c-martinez 10/22/07	Date/Time 1630	Received By/Stored In: 3728 2B 10/22/07	Date/Time 1630
Relinquished By/Removed From: 3728 2B 10-23-07	Date/Time 0930	Received By/Stored In: KR Singleton 10-23-07	Date/Time 0930
Relinquished By/Removed From: Singleton 10-23-07	Date/Time WCH 1500	Received By/Stored In: FED EX	Date/Time
Relinquished By/Removed From: 10-24-07	Date/Time 1000	Received By/Stored In: 10-24-07	Date/Time 1000
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (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 - 7470 - (CV)
(2) ~~Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Silver-108 metastable}~~ CW 10/22/07

Sampler unavailable to relinquish samples from 3728 Ref # 2B
3728 Custodian removed samples for shipping on 10/23/07.

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

000000016

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford

Project/SAF/SOW/Release #: RC.090

Date: 10.24.07

LvLI Batch #: 0710L095

Sample Custodian: D Smith

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier: FedEx		Airbill # 7992 0924 20
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 plastic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 1.9	°C	Cooler # AFS.04.123
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

RECEIVED
NOV 2007

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-020 K1005

DATE RECEIVED: 10/24/07 LVL LOT # :07101095

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J15W21	001	S	07LE0595	10/22/07	10/25/07	11/02/07
J15W21	001 MS	S	07LE0595	10/22/07	10/25/07	11/02/07
J15W21	001 MSD	S	07LE0595	10/22/07	10/25/07	11/02/07
J15W22	002	S	07LE0595	10/22/07	10/25/07	11/09/07
J15W23	003	S	07LE0595	10/22/07	10/25/07	11/09/07
J15W24	004	S	07LE0595	10/22/07	10/25/07	11/09/07
J15W25	005	S	07LE0595	10/22/07	10/25/07	11/02/07
J15W26	006	S	07LE0595	10/22/07	10/25/07	11/02/07
J15W27	007	S	07LE0595	10/22/07	10/25/07	11/02/07
J15W28	008	S	07LE0595	10/22/07	10/25/07	11/02/07
J15W29	009	S	07LE0595	10/22/07	10/25/07	11/02/07
J15W30	010	S	07LE0595	10/22/07	10/25/07	11/02/07
J15W31	011	S	07LE0595	10/22/07	10/25/07	11/09/07
J15W32	012	S	07LE0595	10/22/07	10/25/07	11/02/07
J15W33	013	S	07LE0595	10/22/07	10/25/07	11/09/07
J15W34	014	S	07LE0595	10/22/07	10/25/07	11/09/07
J15W35	015	S	07LE0595	10/22/07	10/25/07	11/02/07

LAB QC:

SBLKPO	MB1	S	07LE0595	N/A	10/25/07	11/01/07
SBLKPO	MB1 BS	S	07LE0595	N/A	10/25/07	11/01/07

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-020
LVL #: 0710L095
SDG/SAF # K1005/RC-020

W.O. #: 11343-606-001-9999-00
Date Received: 10-24-2007

SEMIVOLATILE

Fifteen (15) soil samples were collected on 10-22-2007.

The samples and their associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3540C on 10-25-2007 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 11-01,02,09-2007.

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.

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

3. Three (3) of one hundred and fourteen (114) surrogate recoveries were outside acceptance criteria.

4. Three (3) of one hundred and twenty-eight (128) matrix spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report has been enclosed.

5. All blank spike recoveries were within acceptance criteria.

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

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

r:\group\data\bna\tnu-hanford\0710-095ks2.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 36 pages.

LvLI
LIONVILLE LABORATORY INC.

8. 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").

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

11/15/07
Date

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

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 07MS236

Initiator: Sharon Saylor
Date: 11-12-07
Client: TMU RC020 K1005

Batch: 07IOL095
Samples: ms, msd
Method: SW846/MCAWW/CLP/

Parameter: 8270
Matrix: SOLID
Prep Batch: 07IEO595

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 1,2,4-trichlorobenzene in the ms + msd, and low recovery of 2-methylnaphthalene in the ms but BS is OK

2. Known or Probable Causes(s)

3. Discussion and Proposed Action Other Description: normate

__ 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: 11/12/07

__ 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: KAA 11-15-07 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	2	__ 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.

Semivolatiles by GC/MS, HSL List

Report Date: 11/12/07 10:09

RFW Batch Number: 0710L095 Client: TNUHANFORD RC-020 K1005 Work Order: 11343606001 Page: 1a

	Cust ID:	J15W21	J15W21	J15W21	J15W22	J15W23	J15W24
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 Recovery	Nitrobenzene-d5	84 %	59 %	58 %	66 %	62 %	66 %
	2-Fluorobiphenyl	89 %	85 %	89 %	76 %	69 %	75 %
	Terphenyl-d14	140 * %	108 %	109 %	119 %	117 %	124 %
	Phenol-d5	72 %	81 %	86 %	55 %	56 %	59 %
	2-Fluorophenol	90 %	89 %	93 %	66 %	61 %	65 %
	2,4,6-Tribromophenol	75 %	73 %	69 %	75 %	78 %	75 %
		fl	fl	fl	fl	fl	fl
Phenol		340 U	86 %	87 %	340 U	350 U	340 U
bis(2-Chloroethyl)ether		340 U	68 %	75 %	340 U	350 U	340 U
2-Chlorophenol		340 U	80 %	88 %	340 U	350 U	340 U
1,3-Dichlorobenzene		340 U	68 %	71 %	340 U	350 U	340 U
1,4-Dichlorobenzene		340 U	67 %	71 %	340 U	350 U	340 U
1,2-Dichlorobenzene		340 U	71 %	73 %	340 U	350 U	340 U
2-Methylphenol		340 U	77 %	91 %	340 U	350 U	340 U
2,2'-oxybis(1-Chloropropane)		340 U	76 %	79 %	340 U	350 U	340 U
3/4 Methylphenol		340 U	91 %	102 %	340 U	350 U	340 U
N-Nitroso-di-n-propylamine		340 U	84 %	88 %	340 U	350 U	340 U
Hexachloroethane		340 U	68 %	68 %	340 U	350 U	340 U
Nitrobenzene		340 U	52 %	55 %	340 U	350 U	340 U
Isophorone		340 U	63 %	67 %	340 U	350 U	340 U
2-Nitrophenol		340 U	56 %	59 %	340 U	350 U	340 U
2,4-Dimethylphenol		340 U	54 %	62 %	340 U	350 U	340 U
bis(2-Chloroethoxy)methane		340 U	54 %	59 %	340 U	350 U	340 U
2,4-Dichlorophenol		340 U	57 %	65 %	340 U	350 U	340 U
1,2,4-Trichlorobenzene		340 U	52 * %	54 * %	340 U	350 U	340 U
Naphthalene		340 U	56 %	60 %	340 U	350 U	340 U
4-Chloroaniline		340 U	36 %	42 %	340 U	350 U	340 U
Hexachlorobutadiene		340 U	56 %	57 %	340 U	350 U	340 U
4-Chloro-3-methylphenol		340 U	64 %	72 %	340 U	350 U	340 U
2-Methylnaphthalene		340 U	58 * %	61 %	340 U	350 U	340 U
Hexachlorocyclopentadiene		340 U	48 %	62 %	340 U	350 U	340 U
2,4,6-Trichlorophenol		340 U	79 %	85 %	340 U	350 U	340 U
2,4,5-Trichlorophenol		850 U	80 %	95 %	860 U	870 U	860 U

*= Outside of EPA CLP QC limits.

0000000008

Cust ID:	J15W21		J15W21		J15W21		J15W22		J15W23		J15W24	
RFW#:	001		001 MS		001 MSD		002		003		004	
2-Chloronaphthalene	340	U	74	%	87	%	340	U	350	U	340	U
2-Nitroaniline	850	U	92	%	106	%	860	U	870	U	860	U
Dimethylphthalate	340	U	87	%	101	%	340	U	350	U	340	U
Acenaphthylene	340	U	80	%	93	%	340	U	350	U	340	U
2,6-Dinitrotoluene	340	U	87	%	99	%	340	U	350	U	340	U
3-Nitroaniline	850	U	74	%	85	%	860	U	870	U	860	U
Acenaphthene	340	U	76	%	92	%	340	U	350	U	340	U
2,4-Dinitrophenol	850	U	87	%	99	%	860	U	870	U	860	U
4-Nitrophenol	850	U	111	%	126	%	860	U	870	U	860	U
Dibenzofuran	340	U	85	%	102	%	340	U	350	U	340	U
2,4-Dinitrotoluene	340	U	95	%	111	%	340	U	350	U	340	U
Diethylphthalate	340	U	89	%	104	%	340	U	350	U	340	U
4-Chlorophenyl-phenylether	340	U	85	%	97	%	340	U	350	U	340	U
Fluorene	340	U	84	%	97	%	340	U	350	U	340	U
4-Nitroaniline	850	U	98	%	108	%	860	U	870	U	860	U
4,6-Dinitro-2-methylphenol	850	U	83	%	89	%	860	U	870	U	860	U
N-Nitrosodiphenylamine (1)	340	U	67	%	76	%	340	U	350	U	340	U
4-Bromophenyl-phenylether	340	U	70	%	77	%	340	U	350	U	340	U
Hexachlorobenzene	340	U	81	%	90	%	340	U	350	U	340	U
Pentachlorophenol	850	U	79	%	81	%	860	U	870	U	860	U
Phenanthrene	340	U	84	%	94	%	340	U	350	U	340	U
Anthracene	340	U	90	%	99	%	340	U	350	U	340	U
Carbazole	340	U	87	%	101	%	340	U	350	U	340	U
Di-n-butylphthalate	22	J	89	%	102	%	340	U	350	U	17	J
Fluoranthene	340	U	89	%	96	%	340	U	350	U	340	U
Pyrene	340	U	96	%	102	%	340	U	350	U	340	U
Butylbenzylphthalate	340	U	102	%	109	%	340	U	350	U	340	U
3,3'-Dichlorobenzidine	340	U	60	%	67	%	340	U	350	U	340	U
Benzo(a)anthracene	340	U	90	%	96	%	340	U	350	U	340	U
Chrysene	340	U	86	%	95	%	340	U	350	U	340	U
bis(2-Ethylhexyl)phthalate	75	JB	98	%	108	%	87	JB	27	JB	83	JB
Di-n-octyl phthalate	340	U	88	%	102	%	340	U	350	U	340	U
Benzo(b)fluoranthene	340	U	85	%	95	%	340	U	350	U	340	U
Benzo(k)fluoranthene	340	U	83	%	94	%	340	U	350	U	340	U
Benzo(a)pyrene	340	U	86	%	95	%	340	U	350	U	340	U
Indeno(1,2,3-cd)pyrene	340	U	95	%	101	%	340	U	350	U	340	U
Dibenz(a,h)anthracene	340	U	95	%	102	%	340	U	350	U	340	U
Benzo(g,h,i)perylene	340	U	93	%	98	%	340	U	350	U	340	U

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

000000009

	Cust ID:	J15W25	J15W26	J15W27	J15W28	J15W29	J15W30
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	61 %	67 %	57 %	59 %	57 %	49 %
	2-Fluorobiphenyl	74 %	66 %	60 %	61 %	58 %	55 %
	Terphenyl-d14	114 %	90 %	99 %	90 %	93 %	95 %
	Phenol-d5	58 %	62 %	54 %	55 %	55 %	47 %
	2-Fluorophenol	67 %	81 %	68 %	66 %	67 %	53 %
	2,4,6-Tribromophenol	103 %	81 %	66 %	70 %	72 %	55 %
		fl	fl	fl	fl	fl	fl
Phenol		340 U	340 U	340 U	340 U	340 U	340 U
bis(2-Chloroethyl)ether		340 U	340 U	340 U	340 U	340 U	340 U
2-Chlorophenol		340 U	340 U	340 U	340 U	340 U	340 U
1,3-Dichlorobenzene		340 U	340 U	340 U	340 U	340 U	340 U
1,4-Dichlorobenzene		340 U	340 U	340 U	340 U	340 U	340 U
1,2-Dichlorobenzene		340 U	340 U	340 U	340 U	340 U	340 U
2-Methylphenol		340 U	340 U	340 U	340 U	340 U	340 U
2,2'-oxybis(1-Chloropropane)		340 U	340 U	340 U	340 U	340 U	340 U
3/4 Methylphenol		340 U	340 U	340 U	340 U	340 U	340 U
N-Nitroso-di-n-propylamine		340 U	340 U	340 U	340 U	340 U	340 U
Hexachloroethane		340 U	340 U	340 U	340 U	340 U	340 U
Nitrobenzene		340 U	340 U	340 U	340 U	340 U	340 U
Isophorone		340 U	340 U	340 U	340 U	340 U	340 U
2-Nitrophenol		340 U	340 U	340 U	340 U	340 U	340 U
2,4-Dimethylphenol		340 U	340 U	340 U	340 U	340 U	340 U
bis(2-Chloroethoxy)methane		340 U	340 U	340 U	340 U	340 U	340 U
2,4-Dichlorophenol		340 U	340 U	340 U	340 U	340 U	340 U
1,2,4-Trichlorobenzene		340 U	340 U	340 U	340 U	340 U	340 U
Naphthalene		340 U	340 U	340 U	340 U	340 U	340 U
4-Chloroaniline		340 U	340 U	340 U	340 U	340 U	340 U
Hexachlorobutadiene		340 U	340 U	340 U	340 U	340 U	340 U
4-Chloro-3-methylphenol		340 U	340 U	340 U	340 U	340 U	340 U
2-Methylnaphthalene		340 U	340 U	340 U	340 U	340 U	340 U
Hexachlorocyclopentadiene		340 U	340 U	340 U	340 U	340 U	340 U
2,4,6-Trichlorophenol		340 U	340 U	340 U	340 U	340 U	340 U
2,4,5-Trichlorophenol		850 U	850 U	850 U	850 U	850 U	850 U

*= Outside of EPA CLP QC limits.

000000010

Cust ID:	J15W25		J15W26		J15W27		J15W28		J15W29		J15W30	
RFW#:	005		006		007		008		009		010	
2-Chloronaphthalene	340	U	340	U	340	U	340	U	340	U	340	U
2-Nitroaniline	850	U	850	U	850	U	850	U	850	U	850	U
Dimethylphthalate	340	U	340	U	340	U	340	U	340	U	340	U
Acenaphthylene	340	U	340	U	340	U	340	U	340	U	340	U
2,6-Dinitrotoluene	340	U	340	U	340	U	340	U	340	U	340	U
3-Nitroaniline	850	U	850	U	850	U	850	U	850	U	850	U
Acenaphthene	340	U	340	U	340	U	340	U	340	U	340	U
2,4-Dinitrophenol	850	U	850	U	850	U	850	U	850	U	850	U
4-Nitrophenol	850	U	850	U	850	U	850	U	850	U	850	U
Dibenzofuran	340	U	340	U	340	U	340	U	340	U	340	U
2,4-Dinitrotoluene	340	U	340	U	340	U	340	U	340	U	340	U
Diethylphthalate	340	U	340	U	340	U	340	U	340	U	340	U
4-Chlorophenyl-phenylether	340	U	340	U	340	U	340	U	340	U	340	U
Fluorene	340	U	340	U	340	U	340	U	340	U	340	U
4-Nitroaniline	850	U	850	U	850	U	850	U	850	U	850	U
4,6-Dinitro-2-methylphenol	850	U	850	U	850	U	850	U	850	U	850	U
N-Nitrosodiphenylamine (1)	340	U	340	U	340	U	340	U	340	U	340	U
4-Bromophenyl-phenylether	340	U	340	U	340	U	340	U	340	U	340	U
Hexachlorobenzene	340	U	340	U	340	U	340	U	340	U	340	U
Pentachlorophenol	850	U	850	U	850	U	850	U	850	U	850	U
Phenanthrene	340	U	340	U	340	U	340	U	340	U	340	U
Anthracene	340	U	340	U	340	U	340	U	340	U	340	U
Carbazole	340	U	340	U	340	U	340	U	340	U	340	U
Di-n-butylphthalate	340	U	340	U	340	U	340	U	340	U	340	U
Fluoranthene	340	U	340	U	340	U	340	U	340	U	340	U
Pyrene	340	U	340	U	340	U	340	U	340	U	340	U
Butylbenzylphthalate	340	U	340	U	340	U	340	U	340	U	340	U
3,3'-Dichlorobenzidine	340	U	340	U	340	U	340	U	340	U	340	U
Benzo(a)anthracene	340	U	340	U	340	U	340	U	340	U	340	U
Chrysene	340	U	340	U	340	U	340	U	340	U	340	U
bis(2-Ethylhexyl)phthalate	96	JB	32	JB	100	JB	48	JB	67	JB	43	JB
Di-n-octyl phthalate	340	U	340	U	340	U	340	U	340	U	340	U
Benzo(b)fluoranthene	340	U	340	U	340	U	340	U	340	U	340	U
Benzo(k)fluoranthene	340	U	340	U	340	U	340	U	340	U	340	U
Benzo(a)pyrene	340	U	340	U	340	U	340	U	340	U	340	U
Indeno(1,2,3-cd)pyrene	340	U	340	U	340	U	340	U	340	U	340	U
Dibenz(a,h)anthracene	340	U	340	U	340	U	340	U	340	U	340	U
Benzo(g,h,i)perylene	340	U	340	U	340	U	340	U	340	U	340	U

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

	Cust ID:	J15W31	J15W32	J15W33	J15W34	J15W35	SBLKPO
Sample Information	RFW#:	011	012	013	014	015	07LK0595-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	50 %	49 %	67 %	48 %	66 %	92 %
	2-Fluorobiphenyl	57 %	52 %	77 %	50 %	67 %	96 %
	Terphenyl-d14	88 %	91 %	119 %	85 %	94 %	140 * %
	Phenol-d5	45 %	50 %	63 %	42 %	62 %	72 %
	2-Fluorophenol	52 %	59 %	65 %	49 %	69 %	84 %
	2,4,6-Tribromophenol	62 %	51 %	86 %	58 %	18 * %	30 %
		fl	fl	fl	fl	fl	fl
Phenol		340 U	340 U	340 U	350 U	330 U	330 U
bis(2-Chloroethyl)ether		340 U	340 U	340 U	350 U	330 U	330 U
2-Chlorophenol		340 U	340 U	340 U	350 U	330 U	330 U
1,3-Dichlorobenzene		340 U	340 U	340 U	350 U	330 U	330 U
1,4-Dichlorobenzene		340 U	340 U	340 U	350 U	330 U	330 U
1,2-Dichlorobenzene		340 U	340 U	340 U	350 U	330 U	330 U
2-Methylphenol		340 U	340 U	340 U	350 U	330 U	330 U
2,2'-oxybis(1-Chloropropane)		340 U	340 U	340 U	350 U	330 U	330 U
3/4 Methylphenol		340 U	340 U	340 U	350 U	330 U	330 U
N-Nitroso-di-n-propylamine		340 U	340 U	340 U	350 U	330 U	330 U
Hexachloroethane		340 U	340 U	340 U	350 U	330 U	330 U
Nitrobenzene		340 U	340 U	340 U	350 U	330 U	330 U
Isophorone		340 U	340 U	340 U	350 U	330 U	330 U
2-Nitrophenol		340 U	340 U	340 U	350 U	330 U	330 U
2,4-Dimethylphenol		340 U	340 U	340 U	350 U	330 U	330 U
bis(2-Chloroethoxy)methane		340 U	340 U	340 U	350 U	330 U	330 U
2,4-Dichlorophenol		340 U	340 U	340 U	350 U	330 U	330 U
1,2,4-Trichlorobenzene		340 U	340 U	340 U	350 U	330 U	330 U
Naphthalene		340 U	340 U	340 U	350 U	330 U	330 U
4-Chloroaniline		340 U	340 U	340 U	350 U	330 U	330 U
Hexachlorobutadiene		340 U	340 U	340 U	350 U	330 U	330 U
4-Chloro-3-methylphenol		340 U	340 U	340 U	350 U	330 U	330 U
2-Methylnaphthalene		340 U	340 U	340 U	350 U	330 U	330 U
Hexachlorocyclopentadiene		340 U	340 U	340 U	350 U	330 U	330 U
2,4,6-Trichlorophenol		340 U	340 U	340 U	350 U	330 U	330 U
2,4,5-Trichlorophenol		850 U	850 U	850 U	870 U	830 U	830 U

*= Outside of EPA CLP QC limits.

000000012

Cust ID:	J15W31		J15W32		J15W33		J15W34		J15W35		SBLKPO	
RFW#:	011		012		013		014		015		07LE0595-MB1	
2-Chloronaphthalene	340	U	340	U	340	U	350	U	330	U	330	U
2-Nitroaniline	850	U	850	U	850	U	870	U	830	U	830	U
Dimethylphthalate	340	U	340	U	340	U	350	U	330	U	330	U
Acenaphthylene	340	U	340	U	340	U	350	U	330	U	330	U
2,6-Dinitrotoluene	340	U	340	U	340	U	350	U	330	U	330	U
3-Nitroaniline	850	U	850	U	850	U	870	U	830	U	830	U
Acenaphthene	340	U	340	U	340	U	350	U	330	U	330	U
2,4-Dinitrophenol	850	U	850	U	850	U	870	U	830	U	830	U
4-Nitrophenol	850	U	850	U	850	U	870	U	830	U	830	U
Dibenzofuran	340	U	340	U	340	U	350	U	330	U	330	U
2,4-Dinitrotoluene	340	U	340	U	340	U	350	U	330	U	330	U
Diethylphthalate	340	U	340	U	340	U	350	U	330	U	330	U
4-Chlorophenyl-phenylether	340	U	340	U	340	U	350	U	330	U	330	U
Fluorene	340	U	340	U	340	U	350	U	330	U	330	U
4-Nitroaniline	850	U	850	U	850	U	870	U	830	U	830	U
4,6-Dinitro-2-methylphenol	850	U	850	U	850	U	870	U	830	U	830	U
N-Nitrosodiphenylamine (1)	340	U	340	U	340	U	350	U	330	U	330	U
4-Bromophenyl-phenylether	340	U	340	U	340	U	350	U	330	U	330	U
Hexachlorobenzene	340	U	340	U	340	U	350	U	330	U	330	U
Pentachlorophenol	850	U	850	U	850	U	870	U	830	U	830	U
Phenanthrene	340	U	340	U	340	U	350	U	330	U	330	U
Anthracene	340	U	340	U	340	U	350	U	330	U	330	U
Carbazole	340	U	340	U	340	U	350	U	330	U	330	U
Di-n-butylphthalate	340	U	340	U	340	U	350	U	32	J	330	U
Fluoranthene	340	U	340	U	340	U	350	U	330	U	330	U
Pyrene	340	U	340	U	340	U	21	J	330	U	330	U
Butylbenzylphthalate	340	U	340	U	340	U	350	U	330	U	330	U
3,3'-Dichlorobenzidine	340	U	340	U	340	U	350	U	330	U	330	U
Benzo(a)anthracene	340	U	340	U	340	U	350	U	330	U	330	U
Chrysene	340	U	340	U	340	U	350	U	330	U	330	U
bis(2-Ethylhexyl)phthalate	34	JB	40	JB	54	JB	26	JB	50	JB	43	J
Di-n-octyl phthalate	340	U	340	U	340	U	350	U	330	U	330	U
Benzo(b)fluoranthene	340	U	340	U	340	U	350	U	330	U	330	U
Benzo(k)fluoranthene	340	U	340	U	340	U	350	U	330	U	330	U
Benzo(a)pyrene	340	U	340	U	340	U	350	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	340	U	340	U	340	U	350	U	330	U	330	U
Dibenz(a,h)anthracene	340	U	340	U	340	U	350	U	330	U	330	U
Benzo(g,h,i)perylene	340	U	340	U	340	U	350	U	330	U	330	U

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

000000013

000000014

Cust ID: SBLKPO BS

Sample Information

RFW#: 07LE0595-MB1
Matrix: SOIL
D.F.: 1.00
Units: ug/Kg

Surrogate Recovery	Nitrobenzene-d5	59	%
	2-Fluorobiphenyl	92	%
	Terphenyl-d14	102	%
	Phenol-d5	79	%
	2-Fluorophenol	86	%
	2,4,6-Tribromophenol	99	%

Phenol	78	%
bis(2-Chloroethyl)ether	69	%
2-Chlorophenol	80	%
1,3-Dichlorobenzene	75	%
1,4-Dichlorobenzene	75	%
1,2-Dichlorobenzene	77	%
2-Methylphenol	77	%
2,2'-oxybis(1-Chloropropane)	71	%
3/4 Methylphenol	83	%
N-Nitroso-di-n-propylamine	86	%
Hexachloroethane	72	%
Nitrobenzene	52	%
Isophorone	63	%
2-Nitrophenol	60	%
2,4-Dimethylphenol	50	%
bis(2-Chloroethoxy)methane	57	%
2,4-Dichlorophenol	65	%
1,2,4-Trichlorobenzene	60	%
Naphthalene	57	%
4-Chloroaniline	43	%
Hexachlorobutadiene	67	%
4-Chloro-3-methylphenol	65	%
2-Methylnaphthalene	63	%
Hexachlorocyclopentadiene	79	%
2,4,6-Trichlorophenol	95	%
2,4,5-Trichlorophenol	99	%

*= Outside of EPA CLP QC limits.

Cust ID: SBLKPO BS

RFW#: 07LE0595-MB1

2-Chloronaphthalene	86	%
2-Nitroaniline	93	%
Dimethylphthalate	93	%
Acenaphthylene	91	%
2,6-Dinitrotoluene	93	%
3-Nitroaniline	84	%
Acenaphthene	88	%
2,4-Dinitrophenol	75	%
4-Nitrophenol	91	%
Dibenzofuran	95	%
2,4-Dinitrotoluene	104	%
Diethylphthalate	98	%
4-Chlorophenyl-phenylether	97	%
Fluorene	97	%
4-Nitroaniline	102	%
4,6-Dinitro-2-methylphenol	92	%
N-Nitrosodiphenylamine (1)	77	%
4-Bromophenyl-phenylether	85	%
Hexachlorobenzene	104	%
Pentachlorophenol	78	%
Phenanthrene	98	%
Anthracene	96	%
Carbazole	106	%
Di-n-butylphthalate	103	%
Fluoranthene	110	%
Pyrene	88	%
Butylbenzylphthalate	97	%
3,3'-Dichlorobenzidine	83	%
Benzo(a)anthracene	94	%
Chrysene	94	%
bis(2-Ethylhexyl)phthalate	94	%
Di-n-octyl phthalate	92	%
Benzo(b)fluoranthene	97	%
Benzo(k)fluoranthene	93	%
Benzo(a)pyrene	97	%
Indeno(1,2,3-cd)pyrene	101	%
Dibenz(a,h)anthracene	104	%
Benzo(g,h,i)perylene	93	%

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

000000015

onville Laboratory Use Only

07101095

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

VLI

000000016

ent TNU Hanford RC-020

t. Final Proj. Sampling Date

ject# 11343-606-0019999-00

ject Contact/Phone#

nville Laboratory Project Manager Arlette Johnson

SW846 Del STD TAT 15 Days

te Rec'd 10-24-07 Date Due 11-8-07

		A						B		C				
Refrigerator #		3						3		3				
#/Type Container	Liquid / Solid	1pl						1pl		1pl				
Volume	Solid	250						250		125				
Preservatives		—						—		—				
ANALYSES REQUESTED		ORGANIC						INORG						
		VOA	BNA	Pest/PCB	Herb			Metal	HS	CN	Cr+6			
Lionville Laboratory Use Only			06254					mxO			ICR6			

TRIX DES: 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													
001	J15W21			S	10-22-07	1005		X						X		X			
002	J15W22					1020		X						X		X			
003	J15W23					1040		X						X		X			
004	J15W24					1055		X						X		X			
005	J15W25					1215		X						X		X			
006	J15W26					1235		X						X		X			
007	J15W27					1250		X						X		X			
008	J15W28					1310		X						X		X			
009	J15W29					1325		X						X		X			
010	J15W30					1350		X						X		X			

ecial Instructions:

mat ① = HSL + B, mo, S; (NOTL)

Special Instructions:

1.
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Relinquished by	Received by	Date	Time
[illegible]	[illegible]	10-24-07	10:00

Relinquished by	Received by	Date	Time

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

onville Laboratory Use Only

0710L095

Custody Transfer Record/Lab Work Request

Page ____ of ____

VLI

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

ent TNU Hanford RC-020

L. Final Proj. Sampling Date

ject#

ject Contact/Phone#

nville Laboratory Project Manager Dilitha Johnson

Del TAT 15 Days

te Rec'd 10-24-07 Date Due

		A						B		C				
Refrigerator #		3						3		3				
#/Type Container	Liquid													
	Solid	1pl						1pl	1pl	1pl				
Volume	Solid	250						250		125				
Preservatives		—						—		—				
ANALYSES REQUESTED		ORGANIC						INORG						
		VOA	BNA	Pest/PCB	Herb			Metal + Hg	CN	Cr+6				
		Lionville Laboratory Use Only												
			062544					metO		ICP6				

FRIX DES: 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	031	J15W31			S	10-22-07	1430		X					X		X			
012	032	J15W32					1450		X					X		X			
013	033	J15W33					1505		X					X		X			
014	034	J15W34					1045		X					X		X			
015	035	J15W35					1025		X					X		X			
																	10-24-07		

10-24-07

ecial Instructions:

Special Instructions:

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Relinquished by	Received by	Date	Time
[illegible]	[illegible]	10-24-07	10:00

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000017

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-020-085	Page 1 of 3

Collector C. Martinez / T. Welsh-Koelling	Company Contact C. Martinez	Telephone No. 509-539-2816	Project Coordinator KESSNER, JH
Project Designation 100-BC Burial Grounds - Soil Full Protocol	Sampling Location 100-B-21:2 (2-in asbestos line)		SAF No. RC-020
Ice Chest No. AFS-04-123	Field Logbook No. EFL1173-14	COA R10B212000	Method of Shipment FED EX
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080048		Bill of Lading/Air Bill No. see OSPC

Price Code	Data Turnaround
8L	15 days

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

None

Preservation	None	Cool 4C	Cool 4C	None	None	
Type of Container	G/P	G/P	aG	G/P	aG	
No. of Container(s)	1	1	1	1	1	
Volume	250mL	125mL	250mL	500mL	60mL	
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions.	Gross Alpha & Gross Beta	

Sample No.	Matrix *	Sample Date	Sample Time										
J15W21	SOIL	10/22/07	1005	✓	✓	✓							
J15W22	SOIL		1020	✓	✓	✓							
J15W23	SOIL		1040	✓	✓	✓							
J15W24	SOIL		1055	✓	✓	✓							
J15W25	SOIL	10/22/07	1215	✓	✓	✓							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
T. Welsh-Koelling	10/22/07 1515	C. Martinez/C. Martinez	1515 10/22/07
C. Martinez/C. Martinez	10/22/07 1630	3728 2B	1630 10/22/07
3728 2B	10-23-07 0930	[illegible]	10-23-07 0930
[illegible]	10-23-07 1500	FED EX	
FED EX	10-24-07 / 10:00	[illegible]	10-24-07 / 10:00
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (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 - 7470 - (CV)
(2) ~~Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Silver-108 metastable}~~ 10/22/07

Sampler unavailable to relinquish samples from 3728 Ref # 2B
Custodian removed samples for shipping on 10/23/07.

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-EF 011

000000018

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-020-085	Page 2 of 3

Collector: C. Martinez / T. Welsh-Koelling	Company Contact: C. Martinez	Telephone No.: 509-539-2816	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 15 days		
Project Designation: 100-BC Burial Grounds - Soil Full Protocol	Sampling Location: 100-B-21:2 (2-in asbestos line)		SAF No.: RC-020
Ice Chest No.: AFS-04-123	Field Logbook No.: EFL1173-14	COA: R10B212000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080048		Bill of Lading/Air Bill No.: see OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

None

Preservation	None	Cool 4C	Cool 4C	None	None	
Type of Container	G/P	G/P	aG	G/P	aG	
No. of Container(s)	1	1	1	1	1	
Volume	250mL	125mL	250mL	500mL	60mL	
SAMPLE ANALYSIS	See item (1) in Special Instructions	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions.	Gross Alpha & Gross Beta	

Sample No.	Matrix *	Sample Date	Sample Time										
J15W26	SOIL	10/22/07	1235	✓	✓	✓							
J15W27	SOIL		1250	✓	✓	✓							
J15W28	SOIL		1310	✓	✓	✓							
J15W29	SOIL		1325	✓	✓	✓							
J15W30	SOIL	10/22/07	1350	✓	✓	✓							

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature]	10/22/07 1515	C. Martinez / C. Martinez	10/22/07 1515
C. Martinez / C. Martinez	10/22/07 1630	3728 2B	10/22/07 1630
3728 2B	10-23-07 0930	[signature]	10-23-07 0930
[signature]	10-23-07 1500	FED EX	
[signature]	10-24-07 1000	[signature]	10-24-07 1000

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (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 - 7470 - (CV)
(2) ~~Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Silver-108 metastable)~~ [signature] 10/22/07

Sampler unavailable to relinquish samples from 3728 Ref # 2B. 3728 Custodian removed samples for shipping on 10/23/07.

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

0000000019

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-020-085 | Page 3 of 3

Collector: C. Martinez \T. Welsh-Koelling	Company Contact: C. Martinez	Telephone No.: 509-539-2816	Project Coordinator: KESSNER, JH
Project Designation: 100-BC Burial Grounds - Soil Full Protocol	Sampling Location: 100-B-21:2 (2-in asbestos line)		SAF No.: RC-020
Ice Chest No.: AFS-04-123	Field Logbook No.: EFL1173-14	COA: R10B212000	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A080048		Bill of Lading/Air Bill No.: see OSPC

Price Code: 8L

Data Turnaround: 15 days

POSSIBLE SAMPLE HAZARDS/REMARKS: None

Special Handling and/or Storage: None

Preservation	None	Cool 4C	Cool 4C	None	None
Type of Container	G/P	G/P	aG	G/P	aG
No. of Container(s)	1	1	1	1	1
Volume	250mL	125mL	250mL	500mL	60mL
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	Semi-VOA - 8270A (TCL)	See item (2) in Special Instructions.	Gross Alpha & Gross Beta

Sample No.	Matrix *	Sample Date	Sample Time										
15W31	SOIL	10/22/07	1430	✓	✓	✓							
15W32	SOIL		1450	✓	✓	✓							
15W33	SOIL		1505	✓	✓	✓							
15W34	SOIL		1045	✓	✓	✓							
15W35	SOIL	10/22/07	1025	✓	N/A	✓							

CHAIN OF POSSESSION

Sign/Print Names			
Relinquished By/Removed From	Date/Time 10/22/07 1515	Received By/Stored In	Date/Time 1515
Relinquished By/Removed From	Date/Time 1630	Received By/Stored In	Date/Time 1630
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (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 - 7470 - (CV)
(2) ~~Gamma Spectroscopy (TCL List) [Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155]; Gamma Spec - Add-on [Silver-108 metastable]~~

CW 10/22/07

Sampler unavailable to relinquish samples from 3728 Ref # 2B
3728 Custodian removed samples for shipping on 10/23/07.

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

000000020

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hanford

Project/SAF/SOW/Release #: RC.020

Date: 10.24.07

LvLI Batch #: 0710L095

Sample Custodian: D Smith

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier: FedEx		Airbill #: 7992 0924 21
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 plastic bag and easily accessible?	☑ Yes	☐ No	
5. Samples received cooled or ambient?	Temp 1.9 °C		Cooler #: AFS.04.123
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, TDC, 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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W21

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-001

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

Lab File ID: N110216

Level: (low/med) LOW

Date Received: 10/24/07

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

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/02/07

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	4.634	100	J
2.	ALKANE	5.044	100	J
3.	ALKANE	5.166	200	J
4.	UNKNOWN	5.296	100	J
5.	UNKNOWN	5.636	100000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W22

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-002

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

Lab File ID: N110912

Level: (low/med) LOW

Date Received: 10/24/07

% Moisture: 3 decanted: (Y/N)__

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/09/07

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	4.246	200	J
2.	ALKANE	4.769	200	J
3.	UNKNOWN	5.301	100000	JB
4.	UNKNOWN	17.645	200	J
5.	ALKANE	25.517	200	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W23

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-003

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

Lab File ID: N110913

Level: (low/med) LOW

Date Received: 10/24/07

% Moisture: 4 decanted: (Y/N)__

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/09/07

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	4.251	300	J
2.	ALKANE	4.774	200	J
3.	UNKNOWN	4.905	200	J
4.	UNKNOWN	5.254	100000	JB
5.	UNKNOWN	5.280	20000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W24

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-004

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

Lab File ID: N110914

Level: (low/med) LOW

Date Received: 10/24/07

% Moisture: 3 decanted: (Y/N)__

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/09/07

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	4.253	300	J
2.	UNKNOWN	4.776	200	J
3.	UNKNOWN	5.247	80000	JB
4.	UNKNOWN	5.317	60000	JB
5.	UNKNOWN	5.360	40000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W25

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-005

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

Lab File ID: N110208

Level: (low/med) LOW

Date Received: 10/24/07

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

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/02/07

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	4.637	300	J
2.	ALKANE	5.047	100	J
3.	ALKANE	5.160	100	J
4.	UNKNOWN	5.622	90000	JB
5.	ALKANE	26.217	100	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W26

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-006

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

Lab File ID: N110209

Level: (low/med) LOW

Date Received: 10/24/07

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

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/02/07

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	4.643	200	J
2.	ALKANE	5.166	200	J
3.	ALKANE	5.297	200	J
4.	UNKNOWN	5.637	100000	JB
5.	UNKNOWN	5.655	30000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W27

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-007

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

Lab File ID: N110210

Level: (low/med) LOW

Date Received: 10/24/07

% Moisture: 2 decanted: (Y/N)

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/02/07

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	4.627	500	J
2.	UNKNOWN	5.630	100000	JB
3.	UNKNOWN	19.816	100	JB
4.	UNKNOWN	22.658	400	J
5.	ALKANE	26.207	100	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W28

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-008

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

Lab File ID: N110211

Level: (low/med) LOW

Date Received: 10/24/07

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

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/02/07

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	4.642	200	J
2.	UNKNOWN	5.618	70000	JB
3.	UNKNOWN	5.662	30000	JB
4.	UNKNOWN	25.428	200	J
5.	ALKANE	26.213	200	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W29

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-009

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

Lab File ID: N110212

Level: (low/med) LOW

Date Received: 10/24/07

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

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/02/07

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	4.643	200	J
2.	ALKANE	5.166	200	J
3.	UNKNOWN	5.628	100000	JB
4.	UNKNOWN	5.654	30000	JB
5.	UNKNOWN	25.429	200	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W30

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-010

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

Lab File ID: N110213

Level: (low/med) LOW

Date Received: 10/24/07

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

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/02/07

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	3.754	300	JA
2.	UNKNOWN	4.652	2000	J
3.	ALKANE	5.166	100	J
4.	UNKNOWN	5.620	70000	JB
5.	ALDOL CONDENSATE	7.024	200	JA

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W31

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-011

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

Lab File ID: N110915

Level: (low/med) LOW

Date Received: 10/24/07

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

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/09/07

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	4.246	400	J
2.	ALKANE	4.769	100	J
3.	ALKANE	4.900	100	J
4.	UNKNOWN	5.502	300000	JB
5.	UNKNOWN	24.811	200	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W32

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-012

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

Lab File ID: N110214

Level: (low/med) LOW

Date Received: 10/24/07

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

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/02/07

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	4.634	300	J
2.	UNKNOWN	5.846	300000	JB
3.	ALDOL CONDENSATE	6.901	200	JA
4.	ALKANE	26.214	300	J
5.	ALKANE	28.673	300	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W33

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-013

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

Lab File ID: N110916

Level: (low/med) LOW

Date Received: 10/24/07

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

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/09/07

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	4.246	400	J
2.	UNKNOWN	4.769	200	J
3.	ALKANE	4.900	200	J
4.	UNKNOWN	5.562	400000	JB
5.	UNKNOWN	24.810	200	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W34

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-014

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

Lab File ID: N110917

Level: (low/med) LOW

Date Received: 10/24/07

% Moisture: 4 decanted: (Y/N)__

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/09/07

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	4.251	300	J
2.	UNKNOWN	4.775	100	J
3.	ALKANE	4.905	200	J
4.	UNKNOWN	5.428	300000	JB
5.	UNKNOWN	25.505	100	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15W35

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 0710L095-015

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

Lab File ID: N110215

Level: (low/med) LOW

Date Received: 10/24/07

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

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/02/07

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	4.642	500	J
2.	ALKANE	5.157	100	J
3.	ALKANE	5.296	100	J
4.	UNKNOWN	5.872	300000	JB
5.	UNKNOWN	19.822	1000	JB

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKPO

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

Client: TNUHANFORD RC-020 K1005

Matrix: (soil/water) SOIL

Lab Sample ID: 07LE0595-MB1

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

Lab File ID: N110104

Level: (low/med) LOW

Date Received: 10/25/07

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

Date Extracted: 10/25/07

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 11/01/07

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	5.706	100000	J
2.	UNKNOWN	5.836	200000	J
3.	UNKNOWN	5.871	60000	J
4.	ALDOL CONDENSATE	6.961	400	JA
5.	UNKNOWN	19.892	2000	J