0078932

SAF-RC-088
618-7 Burial Ground – Other Liquids
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Rick Kerkow	L6-06	KW 10/16/08 Initials/Date
Kathy Wendt	H4-21	KW 10/16/08 Initials/Date

COMMENTS:

SDG K1323 **SAF-RC-088**

Rad only Chem only X Rad & Chem

X Complete Partial

WASTE SITE: 618-7 Burial Ground (drums)

RECEIVED
OCT 2 2 2008
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EBERLINE SERVICES

EBERLINE ANALYTICAL CORPORATION
2030 Wright Avenue
Richmond, California 94804-3849
Phone (510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

September 18, 2008

RECEIVED
SEP 2008

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

Reference: **P.O. #S00W235A00**
Eberline Services R8-09-080-7886, SDG K1323

Dear Ms. Kessner:

Enclosed is the data report for nine liquid (other liquid) samples designated under SAF No. RC-088 received at Eberline Services on September 10, 2008. 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

1.0 GENERAL

Washington Closure Hanford (WCH) Sample Delivery Group K1323 was composed of nine liquid (other solid) samples designated under SAF No. RC-088 with a Project Designation of: 618-7 Burial Ground-Other.

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 September 17, 2008.

2.0 ANALYSIS NOTES

2.1 Gross Alpha and Gross Beta Analysis

No problems were encountered during the course of the analyses.

2.2 Total Strontium Analysis

No problems were encountered during the course of the analyses.

2.3 Isotopic Thorium Analysis

No problems were encountered during the course of the analyses.

2.4 Isotopic Uranium Analysis

No problems were encountered during the course of the analyses.

2.5 Isotopic Plutonium Analysis

No problems were encountered during the course of the analyses.

2.6 Americium-241 Analysis

No problems were encountered during the course of the analyses.

2.7 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."

Melissa Mannion — 09/18/08

Melissa C. Mannion
Senior Program Manager

Date

EBERLINE SERVICES/RICHMOND
SAMPLE DELIVERY GROUP K1323

SDG	7886
Contact	Melissa C. Mannion

Client	Hanford
Contract	No. S00W235A00
Case no	SDG_K1323

SUMMARY DATA SECTION

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Prepared by

Melissa Mannion

Reviewed by

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	09/18/08

SDG 7886
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

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 Hanford1
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 09/18/08

ABOUT THE DATA SUMMARY SECTION

DUPLICATES

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

LAB SAMPLE SUMMARY

SDG 7886
Contact Melissa C. Mannion

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CHAIN OF CUSTODY	COLLECTED
R809080-01	J17H23	618-7 BurialGrnd(drums)	LIQUID		RC-088	RC-088-071	09/03/08 10:00
R809080-02	J17H24	618-7 BurialGrnd(drums)	LIQUID		RC-088	RC-088-071	09/03/08 10:15
R809080-03	J17H26	618-7 BurialGrnd(drums)	LIQUID		RC-088	RC-088-072	09/03/08 13:45
R809080-04	J17H27	618-7 BurialGrnd(drums)	LIQUID		RC-088	RC-088-072	09/03/08 14:05
R809080-05	J17H29	618-7 BurialGrnd(drums)	LIQUID		RC-088	RC-088-072	09/03/08 14:50
R809080-06	J17H31	618-7 BurialGrnd(drums)	LIQUID		RC-088	RC-088-073	09/03/08 15:30
R809080-07	J17H32	618-7 BurialGrnd(drums)	LIQUID		RC-088	RC-088-073	09/03/08 15:40
R809080-08	J17H40	618-7 BurialGrnd(drums)	LIQUID		RC-088	RC-088-075	09/05/08 09:50
R809080-09	J17H44	618-7 BurialGrnd(drums)	LIQUID		RC-088	RC-088-075	09/03/08 15:40
R809080-10	Lab Control Sample		LIQUID		RC-088		
R809080-11	Method Blank		LIQUID		RC-088		
R809080-12	Duplicate (R809080-01)	618-7 BurialGrnd(drums)	LIQUID		RC-088		09/03/08 10:00

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7886
Contact Melissa C. Mannion

QC SUMMARY

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

: 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
186	RC-088-071	J17H23	LIQUID		533 mL		09/10/08	7	R809080-01	7886-001
		J17H24	LIQUID		520 mL		09/10/08	7	R809080-02	7886-002
	RC-088-072	J17H26	LIQUID		519 mL		09/10/08	7	R809080-03	7886-003
		J17H27	LIQUID		530 mL		09/10/08	7	R809080-04	7886-004
		J17H29	LIQUID		505 mL		09/10/08	7	R809080-05	7886-005
	RC-088-073	J17H31	LIQUID		515 mL		09/10/08	7	R809080-06	7886-006
		J17H32	LIQUID		530 mL		09/10/08	7	R809080-07	7886-007
	RC-088-075	J17H40	LIQUID		502 mL		09/10/08	5	R809080-08	7886-008
		J17H44	LIQUID		496 mL		09/10/08	7	R809080-09	7886-009
		Method Blank	LIQUID						R809080-11	7886-011
		Lab Control Sample	LIQUID						R809080-10	7886-010
		Duplicate (R809080-01)	LIQUID		533 mL		09/10/08	7	R809080-12	7886-012

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7886
Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Alpha Spectroscopy												
AM	LIQUID	Americium 241 in Liquid	6160-137	8.0	9			1	1	1/1		
PU	LIQUID	Plutonium-238,239/240, Liquid	6160-137	8.0	9			1	1	1/1		
TH	LIQUID	Thorium, Isotopic in Liquid	6160-137	8.0	9			1	1	1/1		
U	LIQUID	Uranium in Liquid	6160-137	8.0	9			1	1	1/1		
Beta Counting												
SR	LIQUID	Total Strontium in Liquids	6160-137	10.4	9			1	1	1/1		
Gas Proportional Counting												
93A	LIQUID	Gross Alpha in Liquid	6160-137	20.6	9			1	1	1/1		
93B	LIQUID	Gross Beta in Liquid	6160-137	11.0	9			1	1	1/1		
Gamma Spectroscopy												
GAM	LIQUID	Gamma Scan in Liquid	6160-137	7.0	9			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 Hanford1
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7886
Contact Melissa C. Mannion

LAB WORK SUMMARY

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
809080-01	J17H23			7886-001	93A/93		09/13/08	09/16/08	BW	Gross Alpha in Liquid
09/03/08	618-7 BurialGrnd(drums)		LIQUID	7886-001	93B/93		09/13/08	09/16/08	BW	Gross Beta in Liquid
09/10/08	RC-088-071	RC-088		7886-001	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7886-001	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-001	PU		09/16/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-001	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-001	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-001	U		09/12/08	09/16/08	BW	Uranium in Liquid
809080-02	J17H24			7886-002	93A/93		09/13/08	09/16/08	BW	Gross Alpha in Liquid
09/03/08	618-7 BurialGrnd(drums)		LIQUID	7886-002	93B/93		09/13/08	09/16/08	BW	Gross Beta in Liquid
09/10/08	RC-088-071	RC-088		7886-002	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7886-002	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-002	PU		09/16/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-002	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-002	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-002	U		09/12/08	09/16/08	BW	Uranium in Liquid
809080-03	J17H26			7886-003	93A/93		09/13/08	09/16/08	BW	Gross Alpha in Liquid
09/03/08	618-7 BurialGrnd(drums)		LIQUID	7886-003	93B/93		09/13/08	09/16/08	BW	Gross Beta in Liquid
09/10/08	RC-088-072	RC-088		7886-003	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7886-003	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-003	PU		09/17/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-003	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-003	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-003	U		09/12/08	09/16/08	BW	Uranium in Liquid
809080-04	J17H27			7886-004	93A/93		09/13/08	09/16/08	BW	Gross Alpha in Liquid
09/03/08	618-7 BurialGrnd(drums)		LIQUID	7886-004	93B/93		09/13/08	09/16/08	BW	Gross Beta in Liquid
09/10/08	RC-088-072	RC-088		7886-004	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7886-004	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-004	PU		09/16/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-004	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-004	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-004	U		09/12/08	09/16/08	BW	Uranium in Liquid

Lab id EBRLNE
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Form DVD-LWS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7886
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

LB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
809080-05	J17H29			7886-005	93A/93		09/13/08	09/16/08	BW	Gross Alpha in Liquid
09/03/08	618-7 BurialGrnd(drums)		LIQUID	7886-005	93B/93		09/13/08	09/16/08	BW	Gross Beta in Liquid
09/10/08	RC-088-072	RC-088		7886-005	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7886-005	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-005	PU		09/16/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-005	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-005	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-005	U		09/12/08	09/16/08	BW	Uranium in Liquid
809080-06	J17H31			7886-006	93A/93		09/16/08	09/16/08	BW	Gross Alpha in Liquid
09/03/08	618-7 BurialGrnd(drums)		LIQUID	7886-006	93B/93		09/16/08	09/16/08	BW	Gross Beta in Liquid
09/10/08	RC-088-073	RC-088		7886-006	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7886-006	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-006	PU		09/17/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-006	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-006	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-006	U		09/12/08	09/16/08	BW	Uranium in Liquid
809080-07	J17H32			7886-007	93A/93		09/16/08	09/16/08	BW	Gross Alpha in Liquid
09/03/08	618-7 BurialGrnd(drums)		LIQUID	7886-007	93B/93		09/16/08	09/16/08	BW	Gross Beta in Liquid
09/10/08	RC-088-073	RC-088		7886-007	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7886-007	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-007	PU		09/16/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-007	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-007	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-007	U		09/12/08	09/16/08	BW	Uranium in Liquid
809080-08	J17H40			7886-008	93A/93		09/16/08	09/16/08	BW	Gross Alpha in Liquid
09/05/08	618-7 BurialGrnd(drums)		LIQUID	7886-008	93B/93		09/16/08	09/16/08	BW	Gross Beta in Liquid
09/10/08	RC-088-075	RC-088		7886-008	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7886-008	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-008	PU		09/16/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-008	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-008	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-008	U		09/12/08	09/16/08	BW	Uranium in Liquid

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7886
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
809080-09	J17H44			7886-009	93A/93		09/16/08	09/16/08	BW	Gross Alpha in Liquid
09/03/08	618-7 BurialGrnd(drums)		LIQUID	7886-009	93B/93		09/16/08	09/16/08	BW	Gross Beta in Liquid
09/10/08	RC-088-075	RC-088		7886-009	AM		09/17/08	09/17/08	BW	Americium 241 in Liquid
				7886-009	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-009	PU		09/17/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-009	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-009	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-009	U		09/16/08	09/16/08	BW	Uranium in Liquid
809080-10	Lab Control Sample			7886-010	93A/93		09/13/08	09/16/08	BW	Gross Alpha in Liquid
			LIQUID	7886-010	93B/93		09/13/08	09/16/08	BW	Gross Beta in Liquid
		RC-088		7886-010	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7886-010	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-010	PU		09/17/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-010	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-010	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-010	U		09/12/08	09/16/08	BW	Uranium in Liquid
809080-11	Method Blank			7886-011	93A/93		09/13/08	09/16/08	BW	Gross Alpha in Liquid
			LIQUID	7886-011	93B/93		09/13/08	09/16/08	BW	Gross Beta in Liquid
		RC-088		7886-011	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7886-011	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-011	PU		09/17/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-011	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-011	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-011	U		09/16/08	09/16/08	BW	Uranium in Liquid
809080-12	Duplicate (R809080-01)			7886-012	93A/93		09/15/08	09/16/08	BW	Gross Alpha in Liquid
09/03/08	618-7 BurialGrnd(drums)		LIQUID	7886-012	93B/93		09/15/08	09/16/08	BW	Gross Beta in Liquid
09/10/08		RC-088		7886-012	AM		09/17/08	09/17/08	BW	Americium 241 in Liquid
				7886-012	GAM		09/13/08	09/15/08	CSS	Gamma Scan in Liquid
				7886-012	PU		09/17/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7886-012	SR		09/12/08	09/17/08	BW	Total Strontium in Liquids
				7886-012	TH		09/17/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7886-012	U		09/12/08	09/16/08	BW	Uranium in Liquid

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7886
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
93A/93	RC-088	Gross Alpha in Liquid	900.0_ALPHABETA_GPC	9			1	1	1	12
93B/93	RC-088	Gross Beta in Liquid	900.0_ALPHABETA_GPC	9			1	1	1	12
AM	RC-088	Americium 241 in Liquid	AMCMISO_IE_PLATE_AEA	9			1	1	1	12
GAM	RC-088	Gamma Scan in Liquid	GAMMA_GS	9			1	1	1	12
PU	RC-088	Plutonium-238,239/240, Liquid	PUISO_PLATE_AEA	9			1	1	1	12
SR	RC-088	Total Strontium in Liquids	SRTOT_SEP_PRECIP_GPC	9			1	1	1	12
TH	RC-088	Thorium, Isotopic in Liquid	THISO_IE_PLATE_AEA	9			1	1	1	12
U	RC-088	Uranium in Liquid	UISO_PLATE_AEA	9			1	1	1	12
TOTALS				72			8	8	8	96

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-011 Method Blank

METHOD BLANK

SDG	7886	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809080-11	Client sample id	Method Blank		
Dept sample id	7886-011	Material/Matrix		LIQUID	
		SAF No	RC-088		

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	-1.51	3.1	7.64	10.0	U	93A
Gross Beta	12587-47-2	0.272	3.0	5.18	15.0	U	93B
Total Strontium	SR-RAD	-0.024	0.14	0.292	1.00	U	SR
Americium 241	14596-10-2	-0.016	0.064	0.123	1.00	U	AM
Thorium 228	14274-82-9	0.016	0.076	0.139	1.00	U	TH
Thorium 230	14269-63-7	-0.048	0.065	0.106	1.00	U	TH
Thorium 232	TH-232	0	0.022	0.041	1.00	U	TH
Uranium 233/234	U-233/234	0.017	0.069	0.132	1.00	U	U
Uranium 235	15117-96-1	0	0.042	0.160	1.00	U	U
Uranium 238	U-238	-0.017	0.035	0.132	1.00	U	U
Plutonium 238	13981-16-3	0	0.15	0.308	1.00	U	PU
Plutonium 239/240	PU-239/240	-0.025	0.050	0.191	1.00	U	PU
Potassium 40	13966-00-2	U		0.352		U	GAM
Cobalt 60	10198-40-0	U		0.034	0.050	U	GAM
Cesium 137	10045-97-3	U		0.028	0.050	U	GAM
Radium 226	13982-63-3	U		0.058	0.100	U	GAM
Radium 228	15262-20-1	U		0.126	0.200	U	GAM
Europium 152	14683-23-9	U		0.074	0.100	U	GAM
Europium 154	15585-10-1	U		0.082	0.100	U	GAM
Europium 155	14391-16-3	U		0.049	0.100	U	GAM
Thorium 228	14274-82-9	U		0.045		U	GAM
Thorium 232	TH-232	U		0.126		U	GAM
Uranium 235	15117-96-1	U		0.101		U	GAM
Uranium 238	U-238	U		3.88		U	GAM
Americium 241	14596-10-2	U		0.030		U	GAM

618-7 Burial Ground-Other

QC-BLANK #67277

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-010

Lab Control Sample

LAB CONTROL SAMPLE

SDG 7886

Contact Melissa C. Mannion

Client/Case no Hanford SDG K1323

Contract No. S00W235A00

Lab sample id R809080-10

Dept sample id 7886-010

Client sample id Lab Control Sample

Material/Matrix LIQUID

SAF No RC-088

ANALYTE	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST	ADDED pCi/mL	2σ ERR pCi/mL	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	124	18	5.94	10.0		93A	112	4.5	111	58-142	70-130
Gross Beta	112	8.4	6.96	15.0		93B	111	4.4	101	79-121	70-130
Total Strontium	10.6	0.29	0.110	1.00		SR	10.2	0.41	104	82-118	80-120
Americium 241	23.4	1.0	0.111	1.00		AM	22.4	0.90	104	85-115	80-120
Thorium 230	35.8	1.5	0.114	1.00		TH	41.6	1.7	86	87-113	80-120
Uranium 233/234	18.1	0.68	0.295	1.00		U	19.3	0.77	94	86-114	80-120
Uranium 235	15.0	0.60	0.026	1.00		U	15.7	0.63	96	86-114	80-120
Uranium 238	19.3	0.71	0.282	1.00		U	21.0	0.84	92	86-114	80-120
Plutonium 238	24.0	2.5	0.376	1.00		PU	25.8	1.0	93	81-119	80-120
Plutonium 239/240	28.4	2.8	0.234	1.00		PU	29.0	1.2	98	80-120	80-120
Cobalt 60	2.46	0.12	0.086	0.050		GAM	2.43	0.097	101	86-114	80-120
Cesium 137	2.97	0.11	0.090	0.050		GAM	2.79	0.11	106	86-114	80-120

618-7 Burial Ground-Other

QC-LCS #67276

Lab id EBRLNE

Protocol Hanford1

Version Ver 1.0

Form DVD-LCS

Version 3.06

Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-012 J17H23

DUPLICATE

SDG	7886	Client/Case no	Hanford SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00
DUPLICATE		ORIGINAL	
Lab sample id	R809080-12	Lab sample id	R809080-01
Dept sample id	7886-012	Dept sample id	7886-001
		Received	09/10/08
Client sample id	J17H23		
Location/Matrix	618-7 BurialGrnd(drums) LIQUID		
Collected/Volume	09/03/08 10:00 533 mL		
Custody/SAF No	RC-088-071 RC-088		

ANALYTE	DUPLICATE pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST	ORIGINAL pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	QUALI-FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	21.4	4.4	2.18	10.0		93A	22.4	4.5	2.45		5	61	0.2
Gross Beta	11.6	4.9	7.06	15.0		93B	12.0	5.5	8.46		3	96	0.1
Total Strontium	0.031	0.14	0.276	1.00	U	SR	-0.011	0.14	0.282	U	-		0.4
Americium 241	0	0.087	0.207	1.00	U	AM	0.063	0.068	0.101	U	-		1.1
Thorium 228	0	0.11	0.263	1.00	U	TH	-0.108	0.22	0.459	U	-		0.9
Thorium 230	0.109	0.16	0.209	1.00	U	TH	-0.027	0.11	0.259	U	-		1.4
Thorium 232	0	0.055	0.209	1.00	U	TH	0	0.054	0.207	U	-		0
Uranium 233/234	9.22	0.40	0.084	1.00		U	8.91	0.41	0.087		3	19	0.5
Uranium 235	1.01	0.12	0.025	1.00		U	0.982	0.12	0.027		3	31	0.3
Uranium 238	6.03	0.30	0.079	1.00		U	5.86	0.31	0.082		3	20	0.4
Plutonium 238	-0.044	0.13	0.296	1.00	U	PU	-0.016	0.097	0.217	U	-		0.3
Plutonium 239/240	0	0	0.169	1.00	U	PU	0.016	0.065	0.124	U	-		0.5
Potassium 40	U		1.18		U	GAM	U		1.74	U	-		0.5
Cobalt 60	U		0.043	0.050	U	GAM	U		0.069	U	-		0.6
Cesium 137	U		0.050	0.050	U	GAM	U		0.077	U	-		0.6
Radium 226	U		0.094	0.100	U	GAM	U		0.151	U	-		0.6
Radium 228	U		0.203	0.200	U	GAM	U		0.316	U	-		0.6
Europium 152	U		0.126	0.100	U	GAM	U		0.208	U	-		0.7
Europium 154	U		0.122	0.100	U	GAM	U		0.189	U	-		0.6
Europium 155	U		0.108	0.100	U	GAM	U		0.183	U	-		0.7
Thorium 228	U		0.069		U	GAM	U		0.108	U	-		0.6
Thorium 232	U		0.203		U	GAM	U		0.316	U	-		0.6
Uranium 235	U		0.480		U	GAM	U		1.01	U	-		0.9
Uranium 238	U		14.2		U	GAM	U		9.10	U	-		0.6
Americium 241	U		0.184		U	GAM	U		0.296	U	-		0.6

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DUP
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-012 J17H23

DUPLICATE, cont.

SDG	7886		Client/Case no	Hanford	SDG K1323
Contact	Melissa C. Mannion		Contract	No. S00W235A00	
	DUPLICATE	ORIGINAL			
Lab sample id	R809080-12	Lab sample id R809080-01	Client sample id	J17H23	
Dept sample id	7886-012	Dept sample id 7886-001	Location/Matrix	618-7 BurialGrnd(drums)	LIQUID
		Received 09/10/08	Collected/Volume	09/03/08 10:00	533 mL
			Custody/SAF No	RC-088-071	RC-088

QC-DUP#1 67278

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DUP
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-001 J17H23

DATA SHEET

SDG	7886	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809080-01	Client sample id	J17H23		
Dept sample id	7886-001	Location/Matrix	618-7 BurialGrnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 10:00	533 mL	
		Custody/SAF No	RC-088-071	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	22.4	4.5	2.45	10.0		93A
Gross Beta	12587-47-2	12.0	5.5	8.46	15.0		93B
Total Strontium	SR-RAD	-0.011	0.14	0.282	1.00	U	SR
Americium 241	14596-10-2	0.063	0.068	0.101	1.00	U	AM
Thorium 228	14274-82-9	-0.108	0.22	0.459	1.00	U	TH
Thorium 230	14269-63-7	-0.027	0.11	0.259	1.00	U	TH
Thorium 232	TH-232	0	0.054	0.207	1.00	U	TH
Uranium 233/234	U-233/234	8.91	0.41	0.087	1.00		U
Uranium 235	15117-96-1	0.982	0.12	0.027	1.00		U
Uranium 238	U-238	5.86	0.31	0.082	1.00		U
Plutonium 238	13981-16-3	-0.016	0.097	0.217	1.00	U	PU
Plutonium 239/240	PU-239/240	0.016	0.065	0.124	1.00	U	PU
Potassium 40	13966-00-2	U		1.74		U	GAM
Cobalt 60	10198-40-0	U		0.069	0.050	U	GAM
Cesium 137	10045-97-3	U		0.077	0.050	U	GAM
Radium 226	13982-63-3	U		0.151	0.100	U	GAM
Radium 228	15262-20-1	U		0.316	0.200	U	GAM
Europium 152	14683-23-9	U		0.208	0.100	U	GAM
Europium 154	15585-10-1	U		0.189	0.100	U	GAM
Europium 155	14391-16-3	U		0.183	0.100	U	GAM
Thorium 228	14274-82-9	U		0.108		U	GAM
Thorium 232	TH-232	U		0.316		U	GAM
Uranium 235	15117-96-1	U		1.01		U	GAM
Uranium 238	U-238	U		9.10		U	GAM
Americium 241	14596-10-2	U		0.296		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-002 J17H24

DATA SHEET

SDG	7886	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809080-02	Client sample id	J17H24		
Dept sample id	7886-002	Location/Matrix	618-7 BurialGrnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 10:15	520 mL	
		Custody/SAF No	RC-088-071	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	11.9	3.2	2.10	10.0		93A
Gross Beta	12587-47-2	12.5	4.8	7.35	15.0		93B
Total Strontium	SR-RAD	0.041	0.13	0.250	1.00	U	SR
Americium 241	14596-10-2	0.063	0.058	0.085	1.00	U	AM
Thorium 228	14274-82-9	0.018	0.18	0.334	1.00	U	TH
Thorium 230	14269-63-7	0.018	0.11	0.173	1.00	U	TH
Thorium 232	TH-232	0.018	0.036	0.138	1.00	U	TH
Uranium 233/234	U-233/234	5.16	0.29	0.075	1.00		U
Uranium 235	15117-96-1	0.599	0.095	0.028	1.00		U
Uranium 238	U-238	3.86	0.25	0.069	1.00		U
Plutonium 238	13981-16-3	-0.019	0.11	0.234	1.00	U	PU
Plutonium 239/240	PU-239/240	0.057	0.076	0.146	1.00	U	PU
Potassium 40	13966-00-2	U		1.96		U	GAM
Cobalt 60	10198-40-0	U		0.074	0.050	U	GAM
Cesium 137	10045-97-3	U		0.071	0.050	U	GAM
Radium 226	13982-63-3	U		0.157	0.100	U	GAM
Radium 228	15262-20-1	U		0.315	0.200	U	GAM
Europium 152	14683-23-9	U		0.192	0.100	U	GAM
Europium 154	15585-10-1	U		0.229	0.100	U	GAM
Europium 155	14391-16-3	U		0.163	0.100	U	GAM
Thorium 228	14274-82-9	U		0.108		U	GAM
Thorium 232	TH-232	U		0.315		U	GAM
Uranium 235	15117-96-1	U		0.383		U	GAM
Uranium 238	U-238	U		13.9		U	GAM
Americium 241	14596-10-2	U		0.165		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-003 **J17H26**

DATA SHEET

SDG	7886	Client/Case no	Hanford SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00
Lab sample id	R809080-03	Client sample id	J17H26
Dept sample id	7886-003	Location/Matrix	618-7 BurialGrnd(drums) LIQUID
Received	09/10/08	Collected/Volume	09/03/08 13:45 519 mL
		Custody/SAF No	RC-088-072 RC-088

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	1.15	1.3	2.06	10.0	U	93A
Gross Beta	12587-47-2	0.770	3.1	5.41	15.0	U	93B
Total Strontium	SR-RAD	0.008	0.13	0.277	1.00	U	SR
Americium 241	14596-10-2	0.134	0.077	0.092	1.00		AM
Thorium 228	14274-82-9	0.126	0.17	0.259	1.00	U	TH
Thorium 230	14269-63-7	0.210	0.17	0.160	1.00		TH
Thorium 232	TH-232	0.042	0.042	0.160	1.00	U	TH
Uranium 233/234	U-233/234	0.116	0.045	0.043	1.00		U
Uranium 235	15117-96-1	0.012	0.016	0.030	1.00	U	U
Uranium 238	U-238	0.139	0.052	0.049	1.00		U
Plutonium 238	13981-16-3	-0.038	0.15	0.366	1.00	U	PU
Plutonium 239/240	PU-239/240	-0.038	0.077	0.293	1.00	U	PU
Potassium 40	13966-00-2	U		2.95		U	GAM
Cobalt 60	10198-40-0	U		0.105	0.050	U	GAM
Cesium 137	10045-97-3	U		0.100	0.050	U	GAM
Radium 226	13982-63-3	U		0.239	0.100	U	GAM
Radium 228	15262-20-1	U		0.472	0.200	U	GAM
Europium 152	14683-23-9	U		0.299	0.100	U	GAM
Europium 154	15585-10-1	U		0.334	0.100	U	GAM
Europium 155	14391-16-3	U		0.240	0.100	U	GAM
Thorium 228	14274-82-9	U		0.183		U	GAM
Thorium 232	TH-232	U		0.472		U	GAM
Uranium 235	15117-96-1	U		0.486		U	GAM
Uranium 238	U-238	U		12.2		U	GAM
Americium 241	14596-10-2	U		0.106		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-004 J17H27

DATA SHEET

SDG	7886	Client/Case no	Hanford	SDG_K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809080-04	Client sample id	J17H27		
Dept sample id	7886-004	Location/Matrix	618-7 BurialGrnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 14:05	530 mL	
		Custody/SAF No	RC-088-072	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	1.81	1.5	2.01	10.0	U	93A
Gross Beta	12587-47-2	-0.122	3.8	6.45	15.0	U	93B
Total Strontium	SR-RAD	0.189	0.16	0.279	1.00	U	SR
Americium 241	14596-10-2	0.063	0.072	0.112	1.00	U	AM
Thorium 228	14274-82-9	0.060	0.16	0.305	1.00	U	TH
Thorium 230	14269-63-7	0.119	0.16	0.152	1.00	U	TH
Thorium 232	TH-232	0	0.040	0.152	1.00	U	TH
Uranium 233/234	U-233/234	1.18	0.13	0.043	1.00		U
Uranium 235	15117-96-1	0.113	0.047	0.030	1.00		U
Uranium 238	U-238	0.828	0.11	0.039	1.00		U
Plutonium 238	13981-16-3	0.029	0.086	0.192	1.00	U	PU
Plutonium 239/240	PU-239/240	0.014	0.057	0.110	1.00	U	PU
Potassium 40	13966-00-2	U		0.423		U	GAM
Cobalt 60	10198-40-0	U		0.055	0.050	U	GAM
Cesium 137	10045-97-3	U		0.043	0.050	U	GAM
Radium 226	13982-63-3	U		0.162	0.100	U	GAM
Radium 228	15262-20-1	U		0.178	0.200	U	GAM
Europium 152	14683-23-9	U		0.112	0.100	U	GAM
Europium 154	15585-10-1	U		0.136	0.100	U	GAM
Europium 155	14391-16-3	U		0.081	0.100	U	GAM
Thorium 228	14274-82-9	U		0.066		U	GAM
Thorium 232	TH-232	U		0.178		U	GAM
Uranium 235	15117-96-1	U		0.161		U	GAM
Uranium 238	U-238	U		6.12		U	GAM
Americium 241	14596-10-2	U		0.052		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-005 J17H29

DATA SHEET

SDG	7886	Client/Case no	Hanford	SDG_K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809080-05	Client sample id	J17H29		
Dept sample id	7886-005	Location/Matrix	618-7 BurialGrnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 14:50	505 mL	
		Custody/SAF No	RC-088-072	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	4.19	2.2	2.62	10.0		93A
Gross Beta	12587-47-2	1.88	2.9	4.80	15.0	U	93B
Total Strontium	SR-RAD	-0.091	0.12	0.267	1.00	U	SR
Americium 241	14596-10-2	-0.026	0.10	0.190	1.00	U	AM
Thorium 228	14274-82-9	-0.110	0.15	0.361	1.00	U	TH
Thorium 230	14269-63-7	0.073	0.11	0.139	1.00	U	TH
Thorium 232	TH-232	-0.018	0.036	0.139	1.00	U	TH
Uranium 233/234	U-233/234	1.27	0.14	0.054	1.00		U
Uranium 235	15117-96-1	0.133	0.052	0.041	1.00		U
Uranium 238	U-238	0.880	0.12	0.057	1.00		U
Plutonium 238	13981-16-3	0.143	0.12	0.171	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.024	0.091	1.00	U	PU
Potassium 40	13966-00-2	U		1.12		U	GAM
Cobalt 60	10198-40-0	U		0.064	0.050	U	GAM
Cesium 137	10045-97-3	U		0.056	0.050	U	GAM
Radium 226	13982-63-3	U		0.111	0.100	U	GAM
Radium 228	15262-20-1	U		0.260	0.200	U	GAM
Europium 152	14683-23-9	U		0.150	0.100	U	GAM
Europium 154	15585-10-1	U		0.151	0.100	U	GAM
Europium 155	14391-16-3	U		0.126	0.100	U	GAM
Thorium 228	14274-82-9	U		0.082		U	GAM
Thorium 232	TH-232	U		0.260		U	GAM
Uranium 235	15117-96-1	U		0.202		U	GAM
Uranium 238	U-238	U		7.15		U	GAM
Americium 241	14596-10-2	U		0.222		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-006 J17H31

DATA SHEET

SDG	7886	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809080-06	Client sample id	J17H31		
Dept sample id	7886-006	Location/Matrix	618-7 BurialGrnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 15:30	515 mL	
		Custody/SAF No	RC-088-073	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	2.94	1.8	1.98	10.0		93A
Gross Beta	12587-47-2	1.19	3.0	4.95	15.0	U	93B
Total Strontium	SR-RAD	0.060	0.15	0.297	1.00	U	SR
Americium 241	14596-10-2	-0.011	0.099	0.179	1.00	U	AM
Thorium 228	14274-82-9	-0.019	0.23	0.428	1.00	U	TH
Thorium 230	14269-63-7	-0.056	0.11	0.180	1.00	U	TH
Thorium 232	TH-232	0	0.038	0.144	1.00	U	TH
Uranium 233/234	U-233/234	1.09	0.11	0.037	1.00		U
Uranium 235	15117-96-1	0.127	0.047	0.037	1.00		U
Uranium 238	U-238	0.974	0.11	0.042	1.00		U
Plutonium 238	13981-16-3	0.037	0.11	0.246	1.00	U	PU
Plutonium 239/240	PU-239/240	0.018	0.073	0.140	1.00	U	PU
Potassium 40	13966-00-2	U		0.568		U	GAM
Cobalt 60	10198-40-0	U		0.024	0.050	U	GAM
Cesium 137	10045-97-3	U		0.026	0.050	U	GAM
Radium 226	13982-63-3	U		0.058	0.100	U	GAM
Radium 228	15262-20-1	U		0.120	0.200	U	GAM
Europium 152	14683-23-9	U		0.072	0.100	U	GAM
Europium 154	15585-10-1	U		0.072	0.100	U	GAM
Europium 155	14391-16-3	U		0.069	0.100	U	GAM
Thorium 228	14274-82-9	U		0.049		U	GAM
Thorium 232	TH-232	U		0.120		U	GAM
Uranium 235	15117-96-1	U		0.115		U	GAM
Uranium 238	U-238	U		2.96		U	GAM
Americium 241	14596-10-2	U		0.063		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-007 J17H32

DATA SHEET

SDG	7886	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809080-07	Client sample id	J17H32		
Dept sample id	7886-007	Location/Matrix	618-7 BurialGrnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 15:40	530 mL	
		Custody/SAF No	RC-088-073	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	8.22	2.9	2.52	10.0		93A
Gross Beta	12587-47-2	6.05	4.2	6.49	15.0	U	93B
Total Strontium	SR-RAD	0.059	0.14	0.265	1.00	U	SR
Americium 241	14596-10-2	0.042	0.072	0.110	1.00	U	AM
Thorium 228	14274-82-9	-0.036	0.11	0.272	1.00	U	TH
Thorium 230	14269-63-7	-0.018	0.11	0.170	1.00	U	TH
Thorium 232	TH-232	-0.018	0.036	0.136	1.00	U	TH
Uranium 233/234	U-233/234	4.35	0.23	0.055	1.00		U
Uranium 235	15117-96-1	0.442	0.072	0.021	1.00		U
Uranium 238	U-238	3.07	0.18	0.049	1.00		U
Plutonium 238	13981-16-3	-0.016	0.048	0.092	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.024	0.054	1.00	U	PU
Potassium 40	13966-00-2	U		0.370		U	GAM
Cobalt 60	10198-40-0	U		0.029	0.050	U	GAM
Cesium 137	10045-97-3	U		0.030	0.050	U	GAM
Radium 226	13982-63-3	U		0.070	0.100	U	GAM
Radium 228	15262-20-1	U		0.128	0.200	U	GAM
Europium 152	14683-23-9	U		0.083	0.100	U	GAM
Europium 154	15585-10-1	U		0.089	0.100	U	GAM
Europium 155	14391-16-3	U		0.058	0.100	U	GAM
Thorium 228	14274-82-9	U		0.050		U	GAM
Thorium 232	TH-232	U		0.128		U	GAM
Uranium 235	15117-96-1	0.200	0.12	0.126			GAM
Uranium 238	U-238	5.13	4.4	4.48			GAM
Americium 241	14596-10-2	U		0.034		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-008 J17H40

DATA SHEET

SDG	7886	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809080-08	Client sample id	J17H40		
Dept sample id	7886-008	Location/Matrix	618-7 BurialGrnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/05/08 09:50	502 mL	
		Custody/SAF No	RC-088-075	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.121	1.0	2.16	10.0	U	93A
Gross Beta	12587-47-2	0.995	2.6	4.44	15.0	U	93B
Total Strontium	SR-RAD	-0.058	0.13	0.272	1.00	U	SR
Americium 241	14596-10-2	0.131	0.13	0.214	1.00	U	AM
Thorium 228	14274-82-9	0.033	0.13	0.256	1.00	U	TH
Thorium 230	14269-63-7	-0.100	0.067	0.160	1.00	U	TH
Thorium 232	TH-232	-0.017	0.033	0.128	1.00	U	TH
Uranium 233/234	U-233/234	0.169	0.045	0.024	1.00		U
Uranium 235	15117-96-1	0.018	0.018	0.023	1.00	U	U
Uranium 238	U-238	0.067	0.030	0.024	1.00		U
Plutonium 238	13981-16-3	0.033	0.048	0.077	1.00	U	PU
Plutonium 239/240	PU-239/240	0.006	0.018	0.040	1.00	U	PU
Potassium 40	13966-00-2	U		0.696		U	GAM
Cobalt 60	10198-40-0	U		0.038	0.050	U	GAM
Cesium 137	10045-97-3	U		0.033	0.050	U	GAM
Radium 226	13982-63-3	U		0.065	0.100	U	GAM
Radium 228	15262-20-1	U		0.156	0.200	U	GAM
Europium 152	14683-23-9	U		0.091	0.100	U	GAM
Europium 154	15585-10-1	U		0.102	0.100	U	GAM
Europium 155	14391-16-3	U		0.079	0.100	U	GAM
Thorium 228	14274-82-9	U		0.051		U	GAM
Thorium 232	TH-232	U		0.156		U	GAM
Uranium 235	15117-96-1	U		0.118		U	GAM
Uranium 238	U-238	U		4.59		U	GAM
Americium 241	14596-10-2	U		0.137		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7886-009 **J17H44**

DATA SHEET

SDG	7886	Client/Case no	Hanford	SDG_K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809080-09	Client sample id	J17H44		
Dept sample id	7886-009	Location/Matrix	618-7 BurialGrnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 15:40	496 mL	
		Custody/SAF No	RC-088-075	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	44.8	6.1	2.09	10.0		93A
Gross Beta	12587-47-2	32.7	5.0	5.11	15.0		93B
Total Strontium	SR-RAD	-0.059	0.11	0.244	1.00	U	SR
Americium 241	14596-10-2	0.047	0.19	0.335	1.00	U	AM
Thorium 228	14274-82-9	-0.036	0.11	0.204	1.00	U	TH
Thorium 230	14269-63-7	0.012	0.059	0.086	1.00	U	TH
Thorium 232	TH-232	-0.006	0.024	0.057	1.00	U	TH
Uranium 233/234	U-233/234	21.9	1.8	0.327	1.00		U
Uranium 235	15117-96-1	2.64	0.47	0.140	1.00		U
Uranium 238	U-238	14.8	1.4	0.309	1.00		U
Plutonium 238	13981-16-3	-0.035	0.14	0.286	1.00	U	PU
Plutonium 239/240	PU-239/240	-0.018	0.035	0.136	1.00	U	PU
Potassium 40	13966-00-2	U		0.279		U	GAM
Cobalt 60	10198-40-0	U		0.012	0.050	U	GAM
Cesium 137	10045-97-3	U		0.011	0.050	U	GAM
Radium 226	13982-63-3	U		0.021	0.100	U	GAM
Radium 228	15262-20-1	U		0.057	0.200	U	GAM
Europium 152	14683-23-9	U		0.031	0.100	U	GAM
Europium 154	15585-10-1	U		0.042	0.100	U	GAM
Europium 155	14391-16-3	U		0.030	0.100	U	GAM
Thorium 228	14274-82-9	U		0.018		U	GAM
Thorium 232	TH-232	U		0.057		U	GAM
Uranium 235	15117-96-1	U		0.048		U	GAM
Uranium 238	U-238	U		1.82		U	GAM
Americium 241	14596-10-2	U		0.035		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test AM Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

AMERICIUM 241 IN LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

B MPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Americium 241	
eparation batch 6160-137						
09080-01			7886-001	J17H23	U	
09080-02			7886-002	J17H24	U	
09080-03			7886-003	J17H26	0.134	
09080-04			7886-004	J17H27	U	
09080-05			7886-005	J17H29	U	
09080-06			7886-006	J17H31	U	
09080-07			7886-007	J17H32	U	
09080-08			7886-008	J17H40	U	
09080-09			7886-009	J17H44	U	
09080-10			7886-010	Lab Control Sample	ok	
09080-11			7886-011	Method Blank	U	
09080-12			7886-012	Duplicate (R809080-01)	-	U

ominal values and limits from method RDLs (pCi/mL) 1.00
18-7 Burial Ground-Other

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test AM Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

AMERICIUM 241 IN LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ETHOD PERFORMANCE

AB AMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/mL	ALIQ mL	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
eparation batch 6160-137			2σ prep error 8.0 % Reference Lab Notebook #6160, pg. 137													
309080-01			J17H23	0.101	0.502			43		871			13	09/16/08	09/16	SS-051
309080-02			J17H24	0.085	0.559			51		871			13	09/16/08	09/16	SS-052
309080-03			J17H26	0.092	0.500			42		871			13	09/16/08	09/16	SS-053
309080-04			J17H27	0.112	0.515			56		875			13	09/16/08	09/16	SS-033
309080-05			J17H29	0.190	0.513			42		873			13	09/16/08	09/16	SS-035
309080-06			J17H31	0.179	0.497			47		873			13	09/16/08	09/16	SS-036
309080-07			J17H32	0.110	0.515			39		874			13	09/16/08	09/16	SS-037
309080-08			J17H40	0.214	0.543			28		876			11	09/16/08	09/16	SS-027
309080-09			J17H44	0.335	0.543			50		167			14	09/16/08	09/17	SS-035
309080-10			Lab Control Sample	0.111	0.500			54		873				09/16/08	09/16	SS-042
309080-11			Method Blank	0.123	0.500			47		870				09/16/08	09/16	SS-062
309080-12			Duplicate (R809080-01)	0.207	0.502			57		174			14	09/16/08	09/17	SS-051
ominal values and limits from method				1.00	0.500			20-105		50	100		180			

PROCEDURES	REFERENCE	AMCMISO_IE_PLATE_AEA
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	CP-963	Americium and Curium in Water and Dissolved Samples by Extraction Chromatography, rev 6
	CP-008	Heavy Element Electroplating, rev 12

AVERAGES ± 2 SD				
FOR 12 SAMPLES	MDA	0.155	±	0.146
	YIELD	46	±	16

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test PU Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

PLUTONIUM-238,239/240, LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

ıB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Plutonium 238		Plutonium 239/240	
:eparation batch 6160-137								
309080-01			7886-001	J17H23	U		U	
309080-02			7886-002	J17H24	U		U	
309080-03			7886-003	J17H26	U		U	
309080-04			7886-004	J17H27	U		U	
309080-05			7886-005	J17H29	U		U	
309080-06			7886-006	J17H31	U		U	
309080-07			7886-007	J17H32	U		U	
309080-08			7886-008	J17H40	U		U	
309080-09			7886-009	J17H44	U		U	
309080-10			7886-010	Lab Control Sample	ok		ok	
309080-11			7886-011	Method Blank	U		U	
309080-12			7886-012	Duplicate (R809080-01)	-	U	-	U
ɔminal values and limits from method				RDLs (pCi/mL)	1.00		1.00	
18-7 Burial Ground-Other								

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test PU Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

PLUTONIUM-238,239/240, LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

[ETHOD PERFORMANCE

AB AMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MAX MDA pCi/mL	ALIQ mL	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
reparation batch 6160-137			2σ prep error 8.0 % Reference Lab Notebook #6160, pg. 137													
309080-01			J17H23	0.217	0.502			72		183			13	09/15/08	09/16	SS-038
309080-02			J17H24	0.234	0.559			68		183			13	09/15/08	09/16	SS-032
309080-03			J17H26	0.366	0.500			65		106			14	09/15/08	09/17	SS-032
309080-04			J17H27	0.192	0.515			76		237			13	09/15/08	09/16	SS-032
309080-05			J17H29	0.171	0.513			74		236			13	09/15/08	09/16	SS-038
309080-06			J17H31	0.246	0.497			70		168			14	09/15/08	09/17	SS-038
309080-07			J17H32	0.092	0.515			73		875			13	09/15/08	09/16	SS-032
309080-08			J17H40	0.077	0.543			75		873			11	09/15/08	09/16	SS-038
309080-09			J17H44	0.286	0.543			70		168			14	09/15/08	09/17	SS-036
309080-10			Lab Control Sample	0.376	0.500			52		172				09/15/08	09/17	SS-031
309080-11			Method Blank	0.308	0.500			62		172				09/15/08	09/17	SS-032
309080-12			Duplicate (R809080-01)	0.296	0.502			73		173			14	09/15/08	09/17	SS-034
ominal values and limits from method				1.00	0.500			20-105		50			180			

PROCEDURES	REFERENCE	PUISO_PLATE_AEA
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	CP-941	Plutonium in Water and Dissolved Samples by Extraction Chromatography, rev 3
	CP-008	Heavy Element Electroplating, rev 12

AVERAGES ± 2 SD FOR 12 SAMPLES				
	MDA	0.238	±	0.191
	YIELD	69	±	14

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test TH Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

THORIUM, ISOTOPIC IN LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

.ESULTS

AB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Thorium 230
:eparation batch 6160-137					
309080-01			7886-001	J17H23	U
309080-02			7886-002	J17H24	U
309080-03			7886-003	J17H26	0.210
309080-04			7886-004	J17H27	U
309080-05			7886-005	J17H29	U
309080-06			7886-006	J17H31	U
309080-07			7886-007	J17H32	U
309080-08			7886-008	J17H40	U
309080-09			7886-009	J17H44	U
309080-10			7886-010	Lab Control Sample	LOW
309080-11			7886-011	Method Blank	U
309080-12			7886-012	Duplicate (R809080-01)	- U

:ominal values and limits from method RDLs (pCi/mL) 1.00
18-7 Burial Ground-Other

Lab EBERLNI
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.00
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test TH Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

THORIUM, ISOTOPIC IN LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

:ETHOD PERFORMANCE

AB AMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MAX MDA pCi/mL	ALIQ mL	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
reparation batch 6160-137			2σ prep error 8.0 % Reference Lab Notebook #6160, pg. 137													
309080-01			J17H23	0.459	0.254			85		238			13	09/16/08	09/16	SS-034
309080-02			J17H24	0.334	0.279			89		236			13	09/16/08	09/16	SS-035
309080-03			J17H26	0.259	0.250			86		236			13	09/16/08	09/16	SS-037
309080-04			J17H27	0.305	0.258			91		237			13	09/16/08	09/16	SS-027
309080-05			J17H29	0.361	0.256			100		246			13	09/16/08	09/16	SS-056
309080-06			J17H31	0.428	0.249			96		246			13	09/16/08	09/16	SS-058
309080-07			J17H32	0.272	0.258			97		245			13	09/16/08	09/16	SS-062
309080-08			J17H40	0.256	0.272			103		245			11	09/16/08	09/16	SS-063
309080-09			J17H44	0.204	0.272			81		871			13	09/16/08	09/16	SS-056
309080-10			Lab Control Sample	0.114	0.250			85		871				09/16/08	09/16	SS-058
309080-11			Method Blank	0.139	0.250			99		869				09/16/08	09/16	SS-063
309080-12			Duplicate (R809080-01)	0.263	0.254			97		174			14	09/16/08	09/17	SS-053
ominal values and limits from method				1.00	0.250			20-110		100	100		180			

PROCEDURES	REFERENCE	THISO_IE_PLATE_AEA
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	CP-900	Thorium in Water and Dissolved Solid Samples by Extraction Chromatography, rev 1
	CP-008	Heavy Element Electroplating, rev 12

AVERAGES ± 2 SD FOR 12 SAMPLES
MDA 0.283 ± 0.208
YIELD 92 ± 14

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test U Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

URANIUM IN LIQUID
ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

ıB ıMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	1: Uranium 233/234	2: Uranium 235	3: Uranium 238	RESULT RATIOS (%) 1÷3	2σ	2÷3	2σ
:eparation batch 6160-137											
ı09080-01			7886-001	J17H23	8.91	0.982	5.86	152	11	17	2
ı09080-02			7886-002	J17H24	5.16	0.599	3.86	134	11	16	3
ı09080-03			7886-003	J17H26	0.116	U	0.139	83	45	9	12
ı09080-04			7886-004	J17H27	1.18	0.113	0.828	143	25	14	6
ı09080-05			7886-005	J17H29	1.27	0.133	0.880	144	25	15	6
ı09080-06			7886-006	J17H31	1.09	0.127	0.974	112	17	13	5
ı09080-07			7886-007	J17H32	4.35	0.442	3.07	142	11	14	2
ı09080-08			7886-008	J17H40	0.169	U	0.067	252	131	27	29
ı09080-09			7886-009	J17H44	21.9	2.64	14.8	148	19	18	4
ı09080-10			7886-010	Lab Control Sample	ok	ok	ok				
ı09080-11			7886-011	Method Blank	U	U	U				
ı09080-12			7886-012	Duplicate (R809080-01)	ok	ok	ok	153	10	17	2
ɔminal values and limits from method				RDLs (pCi/mL)	1.00	1.00	1.00				
18-7 Burial Ground-Other								Averages 146		16	

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test U Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

URANIUM IN LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

:ETHOD PERFORMANCE

AB AMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MAX MDA pCi/mL	ALIQ mL	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
reparation batch 6160-137			2σ prep error 8.0 %		Reference Lab Notebook #6160, pg. 137											
309080-01			J17H23	0.087	0.502			79		953			9	09/12/08	09/12	SS-027
309080-02			J17H24	0.075	0.559			81		953			9	09/12/08	09/12	SS-028
309080-03			J17H26	0.049	0.500			86		954			9	09/12/08	09/12	SS-032
309080-04			J17H27	0.043	0.515			73		954			9	09/12/08	09/12	SS-033
309080-05			J17H29	0.057	0.513			81		955			9	09/12/08	09/12	SS-034
309080-06			J17H31	0.042	0.497			81		954			9	09/12/08	09/12	SS-035
309080-07			J17H32	0.055	0.515			101		954			9	09/12/08	09/12	SS-036
309080-08			J17H40	0.024	0.543			83		955			7	09/12/08	09/12	SS-038
309080-09			J17H44	0.327	0.543			103		182			13	09/12/08	09/16	SS-040
809080-10			Lab Control Sample	0.295	0.500			100		956				09/12/08	09/12	SS-042
809080-11			Method Blank	0.160	0.500			88		183				09/12/08	09/16	SS-034
809080-12			Duplicate (R809080-01)	0.084	0.502			94		957			9	09/12/08	09/12	SS-052
ominal values and limits from method				1.00	0.500					100			180			

PROCEDURES	REFERENCE	UISO_PLATE_AEA
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	CP-921	Uranium in Water and Dissolved Samples by Extraction Chromatography, rev 1
	CP-008	Heavy Element Electroplating, rev 12

AVERAGES ± 2 SD FOR 12 SAMPLES				
	MDA	0.108	±	0.202
	YIELD	88	±	20

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test SR Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

TOTAL STRONTIUM IN LIQUIDS

BETA COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

AB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Total Strontium
:eparation batch 6160-137					
309080-01			7886-001	J17H23	U
309080-02			7886-002	J17H24	U
309080-03			7886-003	J17H26	U
309080-04			7886-004	J17H27	U
309080-05			7886-005	J17H29	U
309080-06			7886-006	J17H31	U
309080-07			7886-007	J17H32	U
309080-08			7886-008	J17H40	U
309080-09			7886-009	J17H44	U
309080-10			7886-010	Lab Control Sample	ok
809080-11			7886-011	Method Blank	U
809080-12			7886-012	Duplicate (R809080-01)	- U

ominal values and limits from method RDLs (pCi/mL) 1.00
18-7 Burial Ground-Other

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test SR Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

TOTAL STRONTIUM IN LIQUIDS

BETA COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ETHOD PERFORMANCE

AB AMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/mL	ALIQ mL	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
eparation batch 6160-137			2σ prep error 10.4 % Reference Lab Notebook #6160, pg. 137													
309080-01			J17H23	0.282	1.00			90		100			9	09/12/08	09/12	GRB-207
309080-02			J17H24	0.250	1.12			84		100			9	09/12/08	09/12	GRB-218
309080-03			J17H26	0.277	1.00			86		100			9	09/12/08	09/12	GRB-220
309080-04			J17H27	0.279	1.03			94		100			9	09/12/08	09/12	GRB-229
309080-05			J17H29	0.267	1.03			90		100			9	09/12/08	09/12	GRB-230
309080-06			J17H31	0.297	0.995			88		100			9	09/12/08	09/12	GRB-231
309080-07			J17H32	0.265	1.03			92		100			9	09/12/08	09/12	GRB-232
309080-08			J17H40	0.272	1.09			88		100			7	09/12/08	09/12	GRB-201
309080-09			J17H44	0.244	1.09			88		100			9	09/12/08	09/12	GRB-202
309080-10			Lab Control Sample	0.110	1.00			88		400				09/12/08	09/12	GRB-232
309080-11			Method Blank	0.292	1.00			85		100				09/12/08	09/12	GRB-204
309080-12			Duplicate (R809080-01)	0.276	1.00			91		100			9	09/12/08	09/12	GRB-207
ominal values and limits from method				1.00	1.00					100			180			

PROCEDURES	REFERENCE	SRTOT_SEP_PRECIP_GPC
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	CP-383	Strontium in Dissolved Solid of < 5.0g Aliquot, rev 1

AVERAGES ± 2 SD FOR 12 SAMPLES
MDA 0.259 ± 0.099
YIELD 89 ± 6

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test 93A Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS ALPHA IN LIQUID

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

ıB ıMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha
:eparation batch 6160-137					
309080-01	93		7886-001	J17H23	22.4
309080-02	93		7886-002	J17H24	11.9
309080-03	93		7886-003	J17H26	U
309080-04	93		7886-004	J17H27	U
309080-05	93		7886-005	J17H29	4.19
309080-06	93		7886-006	J17H31	2.94
309080-07	93		7886-007	J17H32	8.22
309080-08	93		7886-008	J17H40	U
309080-09	93		7886-009	J17H44	44.8
309080-10	93		7886-010	Lab Control Sample	ok
309080-11	93		7886-011	Method Blank	U
809080-12	93		7886-012	Duplicate (R809080-01)	ok

ominal values and limits from method RDLs (pCi/mL) 10.0
18-7 Burial Ground-Other

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test 93A Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS ALPHA IN LIQUID

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

IETHOD PERFORMANCE

AB AMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/mL	ALIQ mL	PREP FAC	DILU- TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
reparation batch 6160-137			2σ prep error 20.6 % Reference Lab Notebook #6160, pg. 137													
809080-01	93		J17H23	2.45	0.100			1		100			10	09/13/08	09/13	GRB-213
809080-02	93		J17H24	2.10	0.112			1		100			10	09/13/08	09/13	GRB-214
809080-03	93		J17H26	2.06	0.100			0		100			10	09/13/08	09/13	GRB-216
809080-04	93		J17H27	2.01	0.103			1		100			10	09/13/08	09/13	GRB-103
809080-05	93		J17H29	2.62	0.103			2		100			10	09/13/08	09/13	GRB-104
809080-06	93		J17H31	1.98	0.100			1		100			13	09/13/08	09/16	GRB-101
809080-07	93		J17H32	2.52	0.103			2		100			13	09/13/08	09/16	GRB-103
809080-08	93		J17H40	2.16	0.109			1		100			11	09/13/08	09/16	GRB-104
809080-09	93		J17H44	2.09	0.109			1		100			13	09/13/08	09/16	GRB-105
809080-10	93		Lab Control Sample	5.94	0.100			63		100				09/13/08	09/13	GRB-103
809080-11	93		Method Blank	7.64	0.100			64		100				09/13/08	09/13	GRB-104
809080-12	93		Duplicate (R809080-01)	2.18	0.100			1		100			12	09/13/08	09/15	GRB-114
ominal values and limits from method				10.0	0.100			5-250		100			180			

PROCEDURES	REFERENCE	900.0_ALPHABETA_GPC
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	SPP-120	Gross Alpha and Gross Beta in Water, rev 0

AVERAGES ± 2 SD FOR 12 SAMPLES
MDA 2.98 ± 3.66
RESIDUE 12 ± 49

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test 93B Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS BETA IN LIQUID

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

ıB ıMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta
:eparation batch 6160-137					
309080-01	93		7886-001	J17H23	12.0
309080-02	93		7886-002	J17H24	12.5
309080-03	93		7886-003	J17H26	U
309080-04	93		7886-004	J17H27	U
309080-05	93		7886-005	J17H29	U
309080-06	93		7886-006	J17H31	U
309080-07	93		7886-007	J17H32	U
309080-08	93		7886-008	J17H40	U
309080-09	93		7886-009	J17H44	32.7
309080-10	93		7886-010	Lab Control Sample	ok
309080-11	93		7886-011	Method Blank	U
309080-12	93		7886-012	Duplicate (R809080-01)	ok

ɔminal values and limits from method RDLs (pCi/mL) 15.0
18-7 Burial Ground-Other

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test 93B Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS BETA IN LIQUID

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ETHOD PERFORMANCE

ıB ıMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/mL	ALIQ mL	PREP FAC	DILU- TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
:eparation batch 6160-137			2σ prep error 11.0 % Reference Lab Notebook #6160, pg. 137													
309080-01	93		J17H23	8.46	0.100			1		100			10	09/13/08	09/13	GRB-213
309080-02	93		J17H24	7.35	0.112			1		100			10	09/13/08	09/13	GRB-214
309080-03	93		J17H26	5.41	0.100			0		100			10	09/13/08	09/13	GRB-216
309080-04	93		J17H27	6.45	0.103			1		100			10	09/13/08	09/13	GRB-103
309080-05	93		J17H29	4.80	0.103			2		100			10	09/13/08	09/13	GRB-104
309080-06	93		J17H31	4.95	0.100			1		100			13	09/13/08	09/16	GRB-101
309080-07	93		J17H32	6.49	0.103			2		100			13	09/13/08	09/16	GRB-103
309080-08	93		J17H40	4.44	0.109			1		100			11	09/13/08	09/16	GRB-104
309080-09	93		J17H44	5.11	0.109			1		100			13	09/13/08	09/16	GRB-105
809080-10	93		Lab Control Sample	6.96	0.100			63		100				09/13/08	09/13	GRB-103
809080-11	93		Method Blank	5.18	0.100			64		100				09/13/08	09/13	GRB-104
809080-12	93		Duplicate (R809080-01)	7.06	0.100			1		100			12	09/13/08	09/15	GRB-114
ominal values and limits from method				15.0	0.100			5-250		100			180			

PROCEDURES	REFERENCE	900.0_ALPHABETA_GPC
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	SPP-120	Gross Alpha and Gross Beta in Water, rev 0

AVERAGES ± 2 SD	MDA	6.06	± 2.49
FOR 12 SAMPLES	RESIDUE	12	± 49

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test GAM Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA SCAN IN LIQUID

GAMMA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

AB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt 60		Cesium 137	
:eparation batch 6160-137								
309080-01			7886-001	J17H23	U		U	
309080-02			7886-002	J17H24	U		U	
309080-03			7886-003	J17H26	U		U	
309080-04			7886-004	J17H27	U		U	
309080-05			7886-005	J17H29	U		U	
309080-06			7886-006	J17H31	U		U	
309080-07			7886-007	J17H32	U		U	
309080-08			7886-008	J17H40	U		U	
309080-09			7886-009	J17H44	U		U	
809080-10			7886-010	Lab Control Sample	ok		ok	
809080-11			7886-011	Method Blank	U		U	
809080-12			7886-012	Duplicate (R809080-01)	-	U	-	U
ominal values and limits from method				RDLs (pCi/mL)	0.050		0.050	
18-7 Burial Ground-Other								

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test GAM Matrix LIQUID
SDG 7886
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA SCAN IN LIQUID

GAMMA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ETHOD PERFORMANCE

AB AMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MAX MDA pCi/mL	ALIQ mL	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
reparation batch 6160-137			2σ prep error 7.0 % Reference Lab Notebook #6160, pg. 137													
309080-01			J17H23	0.077	100					424			10	09/12/08	09/13	JR,08,00
309080-02			J17H24	0.074	100					424			10	09/12/08	09/13	JR,04,00
309080-03			J17H26	0.105	101					425			10	09/12/08	09/13	JR,06,00
309080-04			J17H27	0.055	101					425			10	09/12/08	09/13	JR,07,00
309080-05			J17H29	0.064	101					402			10	09/12/08	09/13	JR,05,00
309080-06			J17H31	0.026	100					1001			10	09/12/08	09/13	JR,02,00
309080-07			J17H32	0.030	100					1001			10	09/12/08	09/13	JR,01,00
309080-08			J17H40	0.038	101					991			8	09/12/08	09/13	JR,05,00
309080-09			J17H44	0.012	101					1001			10	09/12/08	09/13	JR,04,00
309080-10			Lab Control Sample	0.090	100					1001				09/12/08	09/13	JR,06,00
309080-11			Method Blank	0.034	100					1001				09/12/08	09/13	JR,07,00
309080-12			Duplicate (R809080-01)	0.050	100					1002			10	09/12/08	09/13	JR,08,00
ominal values and limits from method				0.050	100					100			180			

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

AVERAGES ± 2 SD FOR 12 SAMPLES
MDA 0.055 ± 0.056
YIELD ____ ± ____

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

SDG 7886
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1323

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 Hanford1
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 09/18/08

SDG 7886
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1323

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 Hanford1
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 09/18/08

SDG 7886
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1323

WORK SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 09/18/08

SDG 7886
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REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

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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Protocol Hanford1
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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_K1323

DATA SHEET

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

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

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

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 09/18/08

SDG 7886
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REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1323

LAB CONTROL SAMPLE

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

The following notes apply to this report:

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 09/18/08

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Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

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.

SDG 7886
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-RG
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Report date 09/18/08

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.

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'

METHOD SUMMARY

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

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

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

  MDAs are underlined if greater than the printed RDL.

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

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

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

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

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

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

METHOD SUMMARY

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

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

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

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

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

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

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

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

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

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

METHOD SUMMARY

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

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

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

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-071	Page 1 of 1

Collector: S. Deeter	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: ~~15~~ 7 Days		
Project Designation: 618-7 Burial Ground - Other	Sampling Location: 618-7 Burial Ground (drums) K1323 (7886)		SAF No.: RC-088
Ice Chest No.: IERC-96-028	Field Logbook No.: EL-1395-13	COA: RG61878500	Method of Shipment: Fed Ex RTC 9/3/08
~~Shipped To~~ EBERLINE SERVICES / DIONVILLE	Offsite Property No.: A080336		Bill of Lading/Air Bill No.: See ogpc

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	None	None	None						
Type of Container	aG	aG	aG	aG	P						
No. of Container(s)	1	0	0	0	1						
Volume	250mL	125mL	125mL	60mL	500mL						
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.						PIN #

RT 9/3/08

Sample No.	Matrix *	Sample Date	Sample Time										
~~J17H20~~	~~OTHER~~												
~~J17H21~~	~~OTHER~~												
~~J17H22~~	~~OTHER~~												
J17H23	OTHER	9/3/08	1000					X					7033
J17H24	OTHER	9/3/08	1015					X					7007

RT 9/24/08

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
SDEETER	9-3-08 1200	RTCoffman/RTCoffman	9/3/08 1700
RT Coffman/RTCoffman	9/3/08	[illegible] 1060	9/5/08 1900
1060/1B	SEP 08 2008 1045	MStrankel	SEP 08 2008 1045
MStrankel	SEP 08 2008 1045	Fed Ex	
Fed Ex		Fed	09/10/08 09:05

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

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

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-072	Page 1 of 1
Collector S. Deeter	**Company Contact** Joan Kessner **Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH	**Price Code** / **Data Turnaround** ~~15~~ 7 Days
Project Designation 618-7 Burial Ground - Other	**Sampling Location** 618-7 Burial Ground (drums) K1323 (7886)	**SAF No.** RC-088	
Ice Chest No. RC-96-028	**Field Logbook No.** EL-1395-13 / **COA** RG61878500	**Method of Shipment** Fed Ex RK 9/3/08	
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A080336	**Bill of Lading/Air Bill No.** See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None				
Type of Container	aG	aG	aG	aG	aG	P				
No. of Container(s)	1	1	0	0	0	1				
Volume	40mL	250mL	125mL	125mL	60mL	500mL				
SAMPLE ANALYSIS	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082 RK 9/3/08	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.				PIN #
Sample No. / **Matrix *** / **Sample Date** / **Sample Time**										
~~J17H25~~ / ~~OTHER~~ / ~~9/3/08~~ / ~~1240~~						X				~~6960~~
J17H26 / OTHER / / 1345						X				7144
J17H27 / OTHER / / 1405						X				7140
~~J17H28~~ / ~~OTHER~~ / / ~~1440~~						X				~~7034~~
J17H29 / OTHER / 9/3/08 / 1450						X				7035

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From SDEE-SR		1700 9-3-08	RTCOFFMAN/RTCoffman	1700 9/3/08
Relinquished By/Removed From RTCOFFMAN/RTCoffman		1900 9/3/08	Received By/Stored In RTCOFFMAN IB, 1060	1900 9/3/08
Relinquished By/Removed From 1060/IB		1045 SEP 0 8 2008	Received By/Stored In mstankovich	1045 SEP 0 8 2008
Relinquished By/Removed From WCH mstankovich		1045 SEP 0 8 2008	Received By/Stored In Fed Ex	
Relinquished By/Removed From FED EX			Received By/Stored In Tuy	09/10/08 09:05
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

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

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-073	Page 1 of 1
Collector: S. Deeter	Company Contact: Joan Kessner; Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code / Data Turnaround: ~~15~~ 7 Days RTC 9/3/08
Project Designation: 618-7 Burial Ground - Other	Sampling Location: 618-7 Burial Ground (drums) K1323 (7886)	SAF No.: RC-088	
Ice Chest No.: ERC-96-028	Field Logbook No.: EL-1395-13; COA: RG61878500	Method of Shipment: FedEx	
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080336	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None					
Type of Container	aG	aG	aG	aG	aG	P					
No. of Container(s)	1	1	0	0	0	1					
Volume	40mL	250mL	125mL	125mL	60mL	500mL					
SAMPLE ANALYSIS	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.					PIN #
Sample No. / Matrix * / Sample Date / Sample Time											
~~J17H30~~ / ~~OTHER~~ / 9/3/08 / 1500						X					7045
J17H31 / OTHER / 9/3/08 / 1530						X					7142
J17H32 / OTHER / 9/3/08 / 1540						X					7141
~~J17H33~~ / ~~OTHER~~											
~~J17H34~~ / ~~OTHER~~											

RTC 9/3/08

RTC 9/3/08

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By/Removed From: Sampler	Received By/Stored In: RT Coffman/RT Coffman	1700 / 9-3-08 / 9/3/08
Relinquished By/Removed From: RT Coffman/RT Coffman	Received By/Stored In: Refer # LB, 1060	1900 / 9/3/08 / 9/3/08
Relinquished By/Removed From: 1060/LB	Received By/Stored In: MS Stankovich	2045 / SEP 08 2008 / 2045 SEP 08 2008
Relinquished By/Removed From: WCH MS Stankovich	Received By/Stored In: FedEx	1045 / SEP 08 2008
Relinquished By/Removed From: FED EX	Received By/Stored In: TWY	09/10/08 04:05
Relinquished By/Removed From:	Received By/Stored In:	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

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

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-075	Page 1 of 1

Collector S. Deeter	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code	Data Turnaround 15 Days
Project Designation 618-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums) K1323 (788L)		SAF No. RC-088		
Ice Chest No. RCC-08-030	Field Logbook No. EL-1395-13	COA RG61878500	Method of Shipment Fed Ex JRD 9/5/08		
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080337		Bill of Lading/Air Bill No. see ospc		

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None					
Type of Container	aG	aG	aG	aG	aG	P					
No. of Container(s)	1	1	0	0	0	1					
Volume	40mL	250mL	125mL	125mL	60mL	500mL					
SAMPLE ANALYSIS	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.				RCF #	Drum #
Sample No. / Matrix * / Sample Date / Sample Time											
J17H40 / OTHER / 9/5/08 / 0950		9/5/08				X				J17H70	7039
~~J17H41 / OTHER / 9/5/08 / 1005~~		JRD				X				~~J17H71~~	~~7042~~
~~J17H42 / OTHER / 9/5/08 / 1250~~						X				~~J17H72~~	~~7038~~
~~J17H43 / OTHER / 9/5/08 / 1305~~						X				~~J17H73~~	~~7161~~
J17H44 / OTHER / 9/5/08 / 1320						X				J17H74	7037

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
SDEETER	1650 9-5-08	JRDeBuique JRDeBuique	1630 9/5/08
JRDeBuique JRDeBuique	1700 9/5/08	1060 IB	1700 9/5/08
1060/IB	0900 SEP 09 2008	MSTankovic	0900 SEP 09 2008
MSTankovic	0900 SEP 09 2008	Fed Ex	
Fed Ex		[illegible]	09/10/08 09:05

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)
(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

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

WCH-EE-011

1/ml)

EBERLINE

SAMPLE RECEIPT CHECKLIST

Client: W.C. HANFORD City RICHLAND State WA

Date/Time received 09/10/08 09:05 CoC No. RC-088-071, 072, 073, 075

ERC-96-028

Container I.D. No. RCC-08-030 Requested TAT (Days) 7 P.O. Received Yes [ ] No [ ]

INSPECTION

1 Custody seals on shipping container intact? Yes [X] No [ ] N/A [ ]

2 Custody seals on shipping container dated & signed? Yes [X] No [ ] N/A [ ]

3 Custody seals on sample containers intact? Yes [X] No [ ] N/A [ ]

4 Custody seals on sample containers dated & signed? Yes [X] No [ ] N/A [ ]

5 Packing material is: Wet [ ] Dry [X]

6 Number of samples in shipping container 15 Sample Matrix: X LIQUID

7 Number of containers per sample 1 (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:

SAMPLES J17M25, 28, 30, 41, 42 and 43 HAVE TWO LAYERS OF DIFFERENT LIQUIDS

14 Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____

15 Inspected by [signature] Date 09/10/08 Time 09:20

Customer Sample No	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe
All samples	<60						

Ion Chamber Ser. No _____ Calibration date _____

Alpha Meter Ser. No _____ Calibration date _____

Beta/Gamma Meter Ser. No. 100482 Calibration date 10JUL08

EBERLINE
SERVICES

EBERLINE ANALYTICAL CORPORATION
2030 Wright Avenue
Richmond, California 94804-3849
Phone (510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

RECEIVED
SEP 2008

September 18, 2008

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

Reference: **P.O. #S00W235A00**
Eberline Services R8-09-081-7887, SDG K1323

Dear Ms. Kessner:

Enclosed is the data report for twelve liquid (other liquid) samples designated under SAF No. RC-088 received at Eberline Services on September 10, 2008. The samples were analyzed according to the accompanying chain-of-custody documents.

Please call if you have any questions concerning this report.

Sincerely,

Melissa Mannion

Melissa C. Mannion
Senior Program Manager

MCM/njv

Enclosure: Data Package

1.0 GENERAL

Washington Closure Hanford (WCH) Sample Delivery Group K1323 was composed of twelve liquid (other liquid) samples designated under SAF No. RC-088 with a Project Designation of: 618-7 Burial Ground-Other.

The samples were two-phase liquid samples. Each sample consisted of an oil phase and an unknown liquid phase. For each sample the phases were separated into separate fractions for analyses; the sample ID's are appended with an A for the oil fraction, and with a B for the unknown liquid fraction.

The samples were received as stated on the Chain-of-Custody documents. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist. The results were transmitted to WCH via e-mail on September 17, 2008.

2.0 ANALYSIS NOTES

2.1 Gross Alpha and Gross Beta Analysis

No problems were encountered during the course of the analyses.

2.2 Total Strontium Analysis

No problems were encountered during the course of the analyses.

2.3 Isotopic Thorium Analysis

No problems were encountered during the course of the analyses.

2.4 Isotopic Uranium Analysis

No problems were encountered during the course of the analyses.

2.5 Isotopic Plutonium Analysis

No problems were encountered during the course of the analyses.

2.6 Americium-241 Analysis

The Am-243 tracer yield for the duplicate analysis of sample J17H25-B was 18%, less than the lower control limit of 20%; no other problems were encountered during the course of the analyses.

2.7 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."

Melissa Mannion

Melissa C. Mannion
Senior Program Manager

09/18/08

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 K1323

SDG	7887
Contact	Melissa C. Mannion

Client	Hanford
Contract	No. S00W235A00
Case no	SDG_K1323

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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Prepared by

Melissa Mannion

Reviewed by

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	09/18/08

SDG 7887
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1323

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 Hanford1
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 09/18/08

ABOUT THE DATA SUMMARY SECTION

DUPLICATES

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7887
Contact Melissa C. Mannion

LAB SAMPLE SUMMARY

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CHAIN OF CUSTODY	COLLECTED
R809081-01	J17H25-A	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-072	09/03/08 12:40
R809081-02	J17H28-A	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-072	09/03/08 14:40
R809081-03	J17H30-A	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-073	09/03/08 15:00
R809081-04	J17H41-A	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-075	09/05/08 10:05
R809081-05	J17H42-A	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-075	09/05/08 12:50
R809081-06	J17H43-A	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-075	09/05/08 13:05
R809081-07	J17H25-B	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-072	09/03/08 12:40
R809081-08	J17H28-B	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-072	09/03/08 14:40
R809081-09	J17H30-B	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-073	09/03/08 15:00
R809081-10	J17H41-B	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-075	09/05/08 10:05
R809081-11	J17H42-B	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-075	09/05/08 12:50
R809081-12	J17H43-B	618-7 Burial Grnd(drums)	LIQUID		RC-088	RC-088-075	09/05/08 13:05
R809081-13	Lab Control Sample		LIQUID		RC-088		
R809081-14	Method Blank		LIQUID		RC-088		
R809081-15	Duplicate (R809081-07)	618-7 Burial Grnd(drums)	LIQUID		RC-088		09/03/08 12:40

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LS
Version 3.06
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7887
Contact Melissa C. Mannion

QC SUMMARY

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

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
87	RC-088-072	J17H25-A	LIQUID		306 mL		09/10/08	7	R809081-01	7887-001
		J17H25-B	LIQUID		211 mL		09/10/08	7	R809081-07	7887-007
		J17H28-A	LIQUID		247 mL		09/10/08	7	R809081-02	7887-002
		J17H28-B	LIQUID		265 mL		09/10/08	7	R809081-08	7887-008
	RC-088-073	J17H30-A	LIQUID		245 mL		09/10/08	7	R809081-03	7887-003
		J17H30-B	LIQUID		272 mL		09/10/08	7	R809081-09	7887-009
	RC-088-075	J17H41-A	LIQUID		110 mL		09/10/08	5	R809081-04	7887-004
		J17H41-B	LIQUID		344 mL		09/10/08	5	R809081-10	7887-010
		J17H42-A	LIQUID		366 mL		09/10/08	5	R809081-05	7887-005
		J17H42-B	LIQUID		131 mL		09/10/08	5	R809081-11	7887-011
		J17H43-A	LIQUID		204 mL		09/10/08	5	R809081-06	7887-006
		J17H43-B	LIQUID		284 mL		09/10/08	5	R809081-12	7887-012
		Method Blank	LIQUID						R809081-14	7887-014
		Lab Control Sample	LIQUID						R809081-13	7887-013
		Duplicate (R809081-07)	LIQUID		211 mL		09/10/08	7	R809081-15	7887-015

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7887
Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

TEST	MATRIX	METHOD	PREPARATION ERROR BATCH	2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Alpha Spectroscopy												
AM	LIQUID	Americium 241 in Liquid	6160-140	8.0	12			1	1	1/1		
PU	LIQUID	Plutonium-238,239/240, Liquid	6160-140	8.0	12			1	1	1/1		
TH	LIQUID	Thorium, Isotopic in Liquid	6160-140	8.0	12			1	1	1/1		
U	LIQUID	Uranium in Liquid	6160-140	8.0	12			1	1	1/1		
Beta Counting												
SR	LIQUID	Total Strontium in Liquids	6160-140	10.4	12			1	1	1/1		
Gas Proportional Counting												
93A	LIQUID	Gross Alpha in Liquid	6160-140	20.6	12			1	1	1/1		
93B	LIQUID	Gross Beta in Liquid	6160-140	11.0	12			1	1	1/1		
Gamma Spectroscopy												
GAM	LIQUID	Gamma Scan in Liquid	6160-140	7.0	12			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 Hanford1
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7887
Contact Melissa C. Mannion

LAB WORK SUMMARY

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

AB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
309081-01	J17H25-A			7887-001	93A/93		09/15/08	09/15/08	BW	Gross Alpha in Liquid
09/03/08	618-7 Burial Grnd(drums)		LIQUID	7887-001	93B/93		09/15/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-072	RC-088		7887-001	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-001	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-001	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-001	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-001	TH		09/15/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-001	U		09/12/08	09/12/08	BW	Uranium in Liquid
309081-02	J17H28-A			7887-002	93A/93		09/15/08	09/15/08	BW	Gross Alpha in Liquid
09/03/08	618-7 Burial Grnd(drums)		LIQUID	7887-002	93B/93		09/15/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-072	RC-088		7887-002	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-002	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-002	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-002	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-002	TH		09/15/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-002	U		09/12/08	09/12/08	BW	Uranium in Liquid
309081-03	J17H30-A			7887-003	93A/93		09/15/08	09/15/08	BW	Gross Alpha in Liquid
09/03/08	618-7 Burial Grnd(drums)		LIQUID	7887-003	93B/93		09/15/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-073	RC-088		7887-003	AM		09/17/08	09/17/08	BW	Americium 241 in Liquid
				7887-003	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-003	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-003	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-003	TH		09/15/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-003	U		09/12/08	09/12/08	BW	Uranium in Liquid
309081-04	J17H41-A			7887-004	93A/93		09/13/08	09/15/08	BW	Gross Alpha in Liquid
09/05/08	618-7 Burial Grnd(drums)		LIQUID	7887-004	93B/93		09/13/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-075	RC-088		7887-004	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-004	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-004	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-004	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-004	TH		09/15/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-004	U		09/12/08	09/12/08	BW	Uranium in Liquid

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7887
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

AB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
309081-05	J17H42-A			7887-005	93A/93		09/13/08	09/15/08	BW	Gross Alpha in Liquid
09/05/08	618-7 Burial Grnd(drums)		LIQUID	7887-005	93B/93		09/13/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-075	RC-088		7887-005	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-005	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-005	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-005	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-005	TH		09/15/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-005	U		09/12/08	09/12/08	BW	Uranium in Liquid
309081-06	J17H43-A			7887-006	93A/93		09/13/08	09/15/08	BW	Gross Alpha in Liquid
09/05/08	618-7 Burial Grnd(drums)		LIQUID	7887-006	93B/93		09/13/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-075	RC-088		7887-006	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-006	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-006	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-006	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-006	TH		09/15/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-006	U		09/12/08	09/12/08	BW	Uranium in Liquid
809081-07	J17H25-B			7887-007	93A/93		09/14/08	09/15/08	BW	Gross Alpha in Liquid
09/03/08	618-7 Burial Grnd(drums)		LIQUID	7887-007	93B/93		09/14/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-072	RC-088		7887-007	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-007	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-007	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-007	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-007	TH		09/15/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-007	U		09/12/08	09/12/08	BW	Uranium in Liquid
809081-08	J17H28-B			7887-008	93A/93		09/14/08	09/15/08	BW	Gross Alpha in Liquid
09/03/08	618-7 Burial Grnd(drums)		LIQUID	7887-008	93B/93		09/14/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-072	RC-088		7887-008	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-008	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-008	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-008	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-008	TH		09/17/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-008	U		09/12/08	09/12/08	BW	Uranium in Liquid

Lab id EBRLNE
Protocol Hanford1
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7887
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

AB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
309081-09	J17H30-B			7887-009	93A/93		09/14/08	09/15/08	BW	Gross Alpha in Liquid
09/03/08	618-7 Burial Grnd(drums)		LIQUID	7887-009	93B/93		09/14/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-073	RC-088		7887-009	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-009	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-009	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-009	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-009	TH		09/17/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-009	U		09/12/08	09/12/08	BW	Uranium in Liquid
309081-10	J17H41-B			7887-010	93A/93		09/14/08	09/15/08	BW	Gross Alpha in Liquid
09/05/08	618-7 Burial Grnd(drums)		LIQUID	7887-010	93B/93		09/14/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-075	RC-088		7887-010	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-010	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-010	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-010	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-010	TH		09/16/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-010	U		09/12/08	09/12/08	BW	Uranium in Liquid
809081-11	J17H42-B			7887-011	93A/93		09/14/08	09/15/08	BW	Gross Alpha in Liquid
09/05/08	618-7 Burial Grnd(drums)		LIQUID	7887-011	93B/93		09/14/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-075	RC-088		7887-011	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-011	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-011	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-011	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-011	TH		09/15/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-011	U		09/12/08	09/12/08	BW	Uranium in Liquid
809081-12	J17H43-B			7887-012	93A/93		09/15/08	09/15/08	BW	Gross Alpha in Liquid
09/05/08	618-7 Burial Grnd(drums)		LIQUID	7887-012	93B/93		09/15/08	09/15/08	BW	Gross Beta in Liquid
09/10/08	RC-088-075	RC-088		7887-012	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-012	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-012	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-012	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-012	TH		09/15/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-012	U		09/12/08	09/12/08	BW	Uranium in Liquid

Lab id EBRLNE
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7887
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

AB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
309081-13	Lab Control Sample			7887-013	93A/93		09/15/08	09/15/08	BW	Gross Alpha in Liquid
			LIQUID	7887-013	93B/93		09/15/08	09/15/08	BW	Gross Beta in Liquid
		RC-088		7887-013	AM	R1	09/17/08	09/17/08	BW	Americium 241 in Liquid
				7887-013	GAM		09/12/08	09/16/08	BW	Gamma Scan in Liquid
				7887-013	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-013	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-013	TH		09/15/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-013	U		09/12/08	09/12/08	BW	Uranium in Liquid
309081-14	Method Blank			7887-014	93A/93		09/15/08	09/15/08	BW	Gross Alpha in Liquid
			LIQUID	7887-014	93B/93		09/15/08	09/15/08	BW	Gross Beta in Liquid
		RC-088		7887-014	AM		09/16/08	09/17/08	BW	Americium 241 in Liquid
				7887-014	GAM		09/13/08	09/16/08	BW	Gamma Scan in Liquid
				7887-014	PU		09/13/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-014	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-014	TH		09/17/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-014	U		09/12/08	09/12/08	BW	Uranium in Liquid
309081-15	Duplicate (R809081-07)			7887-015	93A/93		09/15/08	09/15/08	BW	Gross Alpha in Liquid
09/03/08	618-7 Burial Grnd(drums)		LIQUID	7887-015	93B/93		09/15/08	09/15/08	BW	Gross Beta in Liquid
09/10/08		RC-088		7887-015	AM		09/17/08	09/17/08	BW	Americium 241 in Liquid
				7887-015	GAM		09/13/08	09/16/08	BW	Gamma Scan in Liquid
				7887-015	PU		09/17/08	09/17/08	BW	Plutonium-238,239/240, Liquid
				7887-015	SR		09/15/08	09/17/08	BW	Total Strontium in Liquids
				7887-015	TH		09/15/08	09/17/08	BW	Thorium, Isotopic in Liquid
				7887-015	U		09/12/08	09/12/08	BW	Uranium in Liquid

Lab id EBRLNE
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

SDG 7887
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
93A/93	RC-088	Gross Alpha in Liquid	900.0_ALPHABETA_GPC	12			1	1	1	15
93B/93	RC-088	Gross Beta in Liquid	900.0_ALPHABETA_GPC	12			1	1	1	15
AM	RC-088	Americium 241 in Liquid	AMCMISO_IE_PLATE_AEA	12			1	1	1	15
GAM	RC-088	Gamma Scan in Liquid	GAMMA_GS	12			1	1	1	15
PU	RC-088	Plutonium-238,239/240, Liquid	PUISO_PLATE_AEA	12			1	1	1	15
SR	RC-088	Total Strontium in Liquids	SRTOT_SEP_PRECIP_GPC	12			1	1	1	15
TH	RC-088	Thorium, Isotopic in Liquid	THISO_IE_PLATE_AEA	12			1	1	1	15
U	RC-088	Uranium in Liquid	UISO_PLATE_AEA	12			1	1	1	15
TOTALS				96			8	8	8	120

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-014 Method Blank

METHOD BLANK

SDG	7887	Client/Case no	Hanford SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00
Lab sample id	R809081-14	Client sample id	Method Blank
Dept sample id	7887-014	Material/Matrix	LIQUID
		SAF No	RC-088

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	-0.894	2.9	6.85	10.0	U	93A
Gross Beta	12587-47-2	0.666	3.9	6.67	15.0	U	93B
Total Strontium	SR-RAD	0.037	0.17	0.338	1.00	U	SR
Americium 241	14596-10-2	0.113	0.17	0.312	1.00	U	AM
Thorium 228	14274-82-9	-0.048	0.19	0.404	1.00	U	TH
Thorium 230	14269-63-7	-0.071	0.095	0.182	1.00	U	TH
Thorium 232	TH-232	0	0.047	0.182	1.00	U	TH
Uranium 233/234	U-233/234	-0.016	0.031	0.120	1.00	U	U
Uranium 235	15117-96-1	0	0.038	0.145	1.00	U	U
Uranium 238	U-238	0	0.031	0.120	1.00	U	U
Plutonium 238	13981-16-3	-0.043	0.043	0.207	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.043	0.165	1.00	U	PU
Potassium 40	13966-00-2	U		0.896		U	GAM
Cobalt 60	10198-40-0	U		0.039	0.050	U	GAM
Cesium 137	10045-97-3	U		0.042	0.050	U	GAM
Radium 226	13982-63-3	U		0.086	0.100	U	GAM
Radium 228	15262-20-1	U		0.195	0.200	U	GAM
Europium 152	14683-23-9	U		0.113	0.100	U	GAM
Europium 154	15585-10-1	U		0.102	0.100	U	GAM
Europium 155	14391-16-3	U		0.103	0.100	U	GAM
Thorium 228	14274-82-9	U		0.076		U	GAM
Thorium 232	TH-232	U		0.195		U	GAM
Uranium 235	15117-96-1	U		0.178		U	GAM
Uranium 238	U-238	U		4.37		U	GAM
Americium 241	14596-10-2	U		0.094		U	GAM

618-7 Burial Ground-Other

QC-BLANK #67271

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-013

Lab Control Sample

LAB CONTROL SAMPLE

SDG 7887

Contact Melissa C. Mannion

Client/Case no Hanford SDG K1323

Contract No. S00W235A00

Lab sample id R809081-13

Dept sample id 7887-013

Client sample id Lab Control Sample

Material/Matrix LIQUID

SAF No RC-088

ANALYTE	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST	ADDED pCi/mL	2σ ERR pCi/mL	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	103	16	5.97	10.0		93A	102	4.1	101	60-140	70-130
Gross Beta	89.6	8.5	8.87	15.0		93B	92.6	3.7	97	78-122	70-130
Total Strontium	9.55	0.59	0.274	1.00		SR	9.26	0.37	103	80-120	80-120
Americium 241	23.5	2.7	0.509	1.00		AM	20.4	0.82	115	75-125	80-120
Thorium 230	32.9	1.2	0.101	1.00		TH	37.8	1.5	87	87-113	80-120
Uranium 233/234	17.0	1.6	0.730	1.00		U	18.6	0.74	91	82-118	80-120
Uranium 235	14.3	1.4	0.153	1.00		U	15.1	0.60	95	81-119	80-120
Uranium 238	17.1	1.6	0.699	1.00		U	20.2	0.81	85	83-117	80-120
Plutonium 238	23.6	3.8	0.663	1.00		PU	23.4	0.94	101	72-128	80-120
Plutonium 239/240	25.4	3.9	0.530	1.00		PU	26.4	1.1	96	74-126	80-120
Cobalt 60	2.17	0.10	0.053	0.050		GAM	2.08	0.083	104	86-114	80-120
Cesium 137	2.49	0.092	0.068	0.050		GAM	2.33	0.093	107	86-114	80-120

618-7 Burial Ground-Other

QC-LCS #67270

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-015 J17H25-B

DUPLICATE

SDG	7887	Client/Case no	Hanford SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00
DUPLICATE		ORIGINAL	
Lab sample id	R809081-15	Lab sample id	R809081-07
Dept sample id	7887-015	Dept sample id	7887-007
		Received	09/10/08
Client sample id	J17H25-B		
Location/Matrix	618-7 Burial Grnd(drums) LIQUID		
Collected/Volume	09/03/08 12:40 211 mL		
Custody/SAF No	RC-088-072 RC-088		

ANALYTE	DUPLICATE pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST	ORIGINAL pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	QUALI-FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	19.2	4.0	2.60	10.0		93A	15.2	3.5	1.80		23	64	1.1
Gross Beta	23.1	5.3	7.51	15.0		93B	23.0	4.7	5.88		0	52	0
Total Strontium	-0.032	0.12	0.247	1.00	U	SR	-0.035	0.13	0.260	U	-		0
Americium 241	0	0.30	0.825	1.00	U	AM	0	0.17	0.305	U	-		0
Thorium 228	0.008	0.068	0.116	1.00	U	TH	-0.096	0.096	0.322	U	-		1.8
Thorium 230	0.099	0.068	0.088	1.00		TH	0.024	0.14	0.230	U	122	380	1.0
Thorium 232	0.008	0.015	0.029	1.00	U	TH	0.024	0.048	0.184	U	-		0.6
Uranium 233/234	7.89	0.83	0.199	1.00		U	7.63	0.84	0.211		3	28	0.4
Uranium 235	0.922	0.24	0.128	1.00		U	0.906	0.26	0.136		2	60	0.1
Uranium 238	5.93	0.69	0.199	1.00		U	5.49	0.69	0.197		8	31	0.8
Plutonium 238	0.036	0.11	0.224	1.00	U	PU	0.059	0.12	0.219	U	-		0.3
Plutonium 239/240	-0.018	0.036	0.139	1.00	U	PU	0	0.040	0.152	U	-		0.7
Potassium 40	U		0.563		U	GAM	U		0.359	U	-		0.6
Cobalt 60	U		0.054	0.050	U	GAM	U		0.031	U	-		0.7
Cesium 137	U		0.047	0.050	U	GAM	U		0.030	U	-		0.6
Radium 226	U		0.106	0.100	U	GAM	U		0.071	U	-		0.5
Radium 228	U		0.201	0.200	U	GAM	U		0.130	U	-		0.6
Europium 152	U		0.141	0.100	U	GAM	U		0.087	U	-		0.7
Europium 154	U		0.139	0.100	U	GAM	U		0.096	U	-		0.5
Europium 155	U		0.110	0.100	U	GAM	U		0.071	U	-		0.6
Thorium 228	U		0.081		U	GAM	U		0.055	U	-		0.5
Thorium 232	U		0.201		U	GAM	U		0.130	U	-		0.6
Uranium 235	0.415	0.20	0.236			GAM	0.472	0.14	0.143		13	84	0.5
Uranium 238	19.0	7.1	7.44			GAM	19.3	4.1	3.76		2	66	0.1
Americium 241	U		0.077		U	GAM	U		0.051	U	-		0.6

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DUP
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-015 J17H25-B

DUPLICATE, cont.

SDG	7887			Client/Case no	Hanford SDG K1323
Contact	Melissa C. Mannion			Contract	No. S00W235A00
	DUPLICATE		ORIGINAL		
Lab sample id	R809081-15	Lab sample id	R809081-07	Client sample id	J17H25-B
Dept sample id	7887-015	Dept sample id	7887-007	Location/Matrix	618-7 Burial Grnd(drums) LIQUID
		Received	09/10/08	Collected/Volume	09/03/08 12:40 211 mL
				Custody/SAF No	RC-088-072 RC-088

QC-DUP#7 67272
Unknown Liquid Fraction

Unknown Liquid Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DUP
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-001 J17H25-A

DATA SHEET

SDG	7887	Client/Case no	Hanford	SDG_K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809081-01	Client sample id	J17H25-A		
Dept sample id	7887-001	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 12:40	306 mL	
		Custody/SAF No	RC-088-072	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	3.50	1.9	1.94	10.0		93A
Gross Beta	12587-47-2	2.13	3.0	4.85	15.0	U	93B
Total Strontium	SR-RAD	0.033	0.12	0.248	1.00	U	SR
Americium 241	14596-10-2	-0.030	0.24	0.456	1.00	U	AM
Thorium 228	14274-82-9	0.116	0.19	0.310	1.00	U	TH
Thorium 230	14269-63-7	0.069	0.14	0.176	1.00	U	TH
Thorium 232	TH-232	-0.023	0.046	0.176	1.00	U	TH
Uranium 233/234	U-233/234	1.34	0.34	0.141	1.00		U
Uranium 235	15117-96-1	0.112	0.090	0.171	1.00	U	U
Uranium 238	U-238	0.737	0.23	0.141	1.00		U
Plutonium 238	13981-16-3	0.047	0.14	0.261	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.047	0.181	1.00	U	PU
Potassium 40	13966-00-2	U		0.890		U	GAM
Cobalt 60	10198-40-0	U		0.035	0.050	U	GAM
Cesium 137	10045-97-3	U		0.038	0.050	U	GAM
Radium 226	13982-63-3	U		0.091	0.100	U	GAM
Radium 228	15262-20-1	U		0.192	0.200	U	GAM
Europium 152	14683-23-9	U		0.109	0.100	U	GAM
Europium 154	15585-10-1	U		0.121	0.100	U	GAM
Europium 155	14391-16-3	U		0.105	0.100	U	GAM
Thorium 228	14274-82-9	U		0.077		U	GAM
Thorium 232	TH-232	U		0.192		U	GAM
Uranium 235	15117-96-1	U		0.184		U	GAM
Uranium 238	U-238	U		8.05		U	GAM
Americium 241	14596-10-2	U		0.101		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R809081-01	Client sample id	J17H25-A	
Dept sample id	7887-001	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID
Received	09/10/08	Collected/Volume	09/03/08 12:40	306 mL
		Custody/SAF No	RC-088-072	RC-088

Oil Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-002 J17H28-A

DATA SHEET

SDG	7887	Client/Case no	Hanford SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00
Lab sample id	R809081-02	Client sample id	J17H28-A
Dept sample id	7887-002	Location/Matrix	618-7 Burial Grnd(drums) LIQUID
Received	09/10/08	Collected/Volume	09/03/08 14:40 247 mL
		Custody/SAF No	RC-088-072 RC-088

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	105	9.5	2.56	10.0		93A
Gross Beta	12587-47-2	57.2	6.9	6.62	15.0		93B
Total Strontium	SR-RAD	-0.043	0.12	0.266	1.00	U	SR
Americium 241	14596-10-2	-0.037	0.30	0.597	1.00	U	AM
Thorium 228	14274-82-9	0.031	0.19	0.384	1.00	U	TH
Thorium 230	14269-63-7	0.124	0.19	0.298	1.00	U	TH
Thorium 232	TH-232	0.093	0.12	0.238	1.00	U	TH
Uranium 233/234	U-233/234	50.6	4.0	0.510	1.00		U
Uranium 235	15117-96-1	5.55	0.81	0.171	1.00		U
Uranium 238	U-238	35.2	2.9	0.485	1.00		U
Plutonium 238	13981-16-3	0	0.14	0.390	1.00	U	PU
Plutonium 239/240	PU-239/240	-0.035	0.071	0.270	1.00	U	PU
Potassium 40	13966-00-2	U		1.93		U	GAM
Cobalt 60	10198-40-0	U		0.074	0.050	U	GAM
Cesium 137	10045-97-3	U		0.076	0.050	U	GAM
Radium 226	13982-63-3	U		0.165	0.100	U	GAM
Radium 228	15262-20-1	U		0.330	0.200	U	GAM
Europium 152	14683-23-9	U		0.201	0.100	U	GAM
Europium 154	15585-10-1	U		0.245	0.100	U	GAM
Europium 155	14391-16-3	U		0.232	0.100	U	GAM
Thorium 228	14274-82-9	U		0.113		U	GAM
Thorium 232	TH-232	U		0.330		U	GAM
Uranium 235	15117-96-1	2.36	0.43	0.499			GAM
Uranium 238	U-238	44.2	11	10.7			GAM
Americium 241	14596-10-2	U		0.292		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-002 **J17H28-A**

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809081-02	Client sample id	J17H28-A		
Dept sample id	7887-002	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 14:40	247 mL	
		Custody/SAF No	RC-088-072	RC-088	

Oil Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-003 **J17H30-A**

DATA SHEET

SDG	7887	Client/Case no	Hanford SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00
Lab sample id	R809081-03	Client sample id	J17H30-A
Dept sample id	7887-003	Location/Matrix	618-7 Burial Grnd(drums) LIQUID
Received	09/10/08	Collected/Volume	09/03/08 15:00 245 mL
		Custody/SAF No	RC-088-073 RC-088

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.550	1.2	2.28	10.0	U	93A
Gross Beta	12587-47-2	-0.582	2.7	4.79	15.0	U	93B
Total Strontium	SR-RAD	-0.082	0.12	0.275	1.00	U	SR
Americium 241	14596-10-2	-0.063	0.13	0.302	1.00	U	AM
Thorium 228	14274-82-9	0.101	0.15	0.312	1.00	U	TH
Thorium 230	14269-63-7	0.025	0.15	0.242	1.00	U	TH
Thorium 232	TH-232	0	0.051	0.193	1.00	U	TH
Uranium 233/234	U-233/234	0.021	0.085	0.162	1.00	U	U
Uranium 235	15117-96-1	0.051	0.051	0.196	1.00	U	U
Uranium 238	U-238	0.042	0.085	0.162	1.00	U	U
Plutonium 238	13981-16-3	0.032	0.19	0.350	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.063	0.242	1.00	U	PU
Potassium 40	13966-00-2	U		0.543		U	GAM
Cobalt 60	10198-40-0	U		0.055	0.050	U	GAM
Cesium 137	10045-97-3	U		0.049	0.050	U	GAM
Radium 226	13982-63-3	U		0.108	0.100	U	GAM
Radium 228	15262-20-1	U		0.207	0.200	U	GAM
Europium 152	14683-23-9	U		0.131	0.100	U	GAM
Europium 154	15585-10-1	U		0.157	0.100	U	GAM
Europium 155	14391-16-3	U		0.083	0.100	U	GAM
Thorium 228	14274-82-9	U		0.082		U	GAM
Thorium 232	TH-232	U		0.207		U	GAM
Uranium 235	15117-96-1	U		0.151		U	GAM
Uranium 238	U-238	U		6.18		U	GAM
Americium 241	14596-10-2	U		0.045		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-003 **J17H30-A**

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG_K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809081-03	Client sample id	J17H30-A		
Dept sample id	7887-003	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 15:00	245 mL	
		Custody/SAF No	RC-088-073	RC-088	

Oil Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-004 J17H41-A

DATA SHEET

SDG	7887	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809081-04	Client sample id	J17H41-A		
Dept sample id	7887-004	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/05/08 10:05	110 mL	
		Custody/SAF No	RC-088-075	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	2.87	1.9	2.17	10.0		93A
Gross Beta	12587-47-2	2.68	3.4	5.56	15.0	U	93B
Total Strontium	SR-RAD	-0.009	0.13	0.273	1.00	U	SR
Americium 241	14596-10-2	0.259	0.30	0.496	1.00	U	AM
Thorium 228	14274-82-9	0.049	0.20	0.416	1.00	U	TH
Thorium 230	14269-63-7	-0.049	0.098	0.234	1.00	U	TH
Thorium 232	TH-232	0.024	0.049	0.187	1.00	U	TH
Uranium 233/234	U-233/234	2.21	0.45	0.147	1.00		U
Uranium 235	15117-96-1	0.280	0.14	0.178	1.00		U
Uranium 238	U-238	1.58	0.36	0.147	1.00		U
Plutonium 238	13981-16-3	-0.071	0.095	0.261	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.047	0.181	1.00	U	PU
Potassium 40	13966-00-2	U		2.87		U	GAM
Cobalt 60	10198-40-0	U		0.108	0.050	U	GAM
Cesium 137	10045-97-3	U		0.103	0.050	U	GAM
Radium 226	13982-63-3	U		0.236	0.100	U	GAM
Radium 228	15262-20-1	U		0.478	0.200	U	GAM
Europium 152	14683-23-9	U		0.296	0.100	U	GAM
Europium 154	15585-10-1	U		0.320	0.100	U	GAM
Europium 155	14391-16-3	U		0.225	0.100	U	GAM
Thorium 228	14274-82-9	U		0.172		U	GAM
Thorium 232	TH-232	U		0.478		U	GAM
Uranium 235	15117-96-1	U		0.472		U	GAM
Uranium 238	U-238	U		13.1		U	GAM
Americium 241	14596-10-2	U		0.107		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-004 J17H41-A

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG_K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R809081-04	Client sample id	J17H41-A	
Dept sample id	7887-004	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID
Received	09/10/08	Collected/Volume	09/05/08 10:05	110 mL
		Custody/SAF No	RC-088-075	RC-088

Oil Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-005 **J17H42-A**

DATA SHEET

SDG	7887	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809081-05	Client sample id	J17H42-A		
Dept sample id	7887-005	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/05/08 12:50	366 mL	
		Custody/SAF No	RC-088-075	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	6.02	2.4	1.94	10.0		93A
Gross Beta	12587-47-2	6.54	5.2	8.19	15.0	U	93B
Total Strontium	SR-RAD	-0.147	0.12	0.288	1.00	U	SR
Americium 241	14596-10-2	0.210	0.24	0.332	1.00	U	AM
Thorium 228	14274-82-9	0.048	0.14	0.265	1.00	U	TH
Thorium 230	14269-63-7	0.096	0.14	0.183	1.00	U	TH
Thorium 232	TH-232	0	0.048	0.183	1.00	U	TH
Uranium 233/234	U-233/234	3.52	0.66	0.239	1.00		U
Uranium 235	15117-96-1	0.333	0.18	0.231	1.00		U
Uranium 238	U-238	2.22	0.53	0.239	1.00		U
Plutonium 238	13981-16-3	0	0.13	0.300	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.045	0.171	1.00	U	PU
Potassium 40	13966-00-2	U		0.415		U	GAM
Cobalt 60	10198-40-0	U		0.053	0.050	U	GAM
Cesium 137	10045-97-3	U		0.049	0.050	U	GAM
Radium 226	13982-63-3	U		0.087	0.100	U	GAM
Radium 228	15262-20-1	U		0.168	0.200	U	GAM
Europium 152	14683-23-9	U		0.117	0.100	U	GAM
Europium 154	15585-10-1	U		0.154	0.100	U	GAM
Europium 155	14391-16-3	U		0.092	0.100	U	GAM
Thorium 228	14274-82-9	U		0.135		U	GAM
Thorium 232	TH-232	U		0.168		U	GAM
Uranium 235	15117-96-1	U		0.286		U	GAM
Uranium 238	U-238	U		5.83		U	GAM
Americium 241	14596-10-2	U		0.061		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R809081-05	Client sample id	J17H42-A	
Dept sample id	7887-005	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID
Received	09/10/08	Collected/Volume	09/05/08 12:50	366 mL
		Custody/SAF No	RC-088-075	RC-088

Oil Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-006 **J17H43-A**

DATA SHEET

SDG	7887	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809081-06	Client sample id	J17H43-A		
Dept sample id	7887-006	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/05/08 13:05	204 mL	
		Custody/SAF No	RC-088-075	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	1.23	1.5	2.26	10.0	U	93A
Gross Beta	12587-47-2	1.87	3.9	6.42	15.0	U	93B
Total Strontium	SR-RAD	0.062	0.14	0.279	1.00	U	SR
Americium 241	14596-10-2	0	0.24	0.498	1.00	U	AM
Thorium 228	14274-82-9	0.048	0.19	0.343	1.00	U	TH
Thorium 230	14269-63-7	0.095	0.14	0.182	1.00	U	TH
Thorium 232	TH-232	0.024	0.048	0.182	1.00	U	TH
Uranium 233/234	U-233/234	1.21	0.33	0.152	1.00		U
Uranium 235	15117-96-1	0.168	0.14	0.184	1.00	U	U
Uranium 238	U-238	1.05	0.29	0.152	1.00		U
Plutonium 238	13981-16-3	-0.073	0.15	0.348	1.00	U	PU
Plutonium 239/240	PU-239/240	0.024	0.048	0.185	1.00	U	PU
Potassium 40	13966-00-2	U		2.14		U	GAM
Cobalt 60	10198-40-0	U		0.073	0.050	U	GAM
Cesium 137	10045-97-3	U		0.082	0.050	U	GAM
Radium 226	13982-63-3	U		0.162	0.100	U	GAM
Radium 228	15262-20-1	U		0.361	0.200	U	GAM
Europium 152	14683-23-9	U		0.213	0.100	U	GAM
Europium 154	15585-10-1	U		0.217	0.100	U	GAM
Europium 155	14391-16-3	U		0.178	0.100	U	GAM
Thorium 228	14274-82-9	U		0.120		U	GAM
Thorium 232	TH-232	U		0.361		U	GAM
Uranium 235	15117-96-1	U		0.288		U	GAM
Uranium 238	U-238	U		8.39		U	GAM
Americium 241	14596-10-2	U		0.282		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-006 J17H43-A

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R809081-06	Client sample id	J17H43-A	
Dept sample id	7887-006	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID
Received	09/10/08	Collected/Volume	09/05/08 13:05	204 mL
		Custody/SAF No	RC-088-075	RC-088

Oil Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-007 J17H25-B

DATA SHEET

SDG	7887	Client/Case no	Hanford SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00
Lab sample id	R809081-07	Client sample id	J17H25-B
Dept sample id	7887-007	Location/Matrix	618-7 Burial Grnd(drums) LIQUID
Received	09/10/08	Collected/Volume	09/03/08 12:40 211 mL
		Custody/SAF No	RC-088-072 RC-088

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	15.2	3.5	1.80	10.0		93A
Gross Beta	12587-47-2	23.0	4.7	5.88	15.0		93B
Total Strontium	SR-RAD	-0.035	0.13	0.260	1.00	U	SR
Americium 241	14596-10-2	0	0.17	0.305	1.00	U	AM
Thorium 228	14274-82-9	-0.096	0.096	0.322	1.00	U	TH
Thorium 230	14269-63-7	0.024	0.14	0.230	1.00	U	TH
Thorium 232	TH-232	0.024	0.048	0.184	1.00	U	TH
Uranium 233/234	U-233/234	7.63	0.84	0.211	1.00		U
Uranium 235	15117-96-1	0.906	0.26	0.136	1.00		U
Uranium 238	U-238	5.49	0.69	0.197	1.00		U
Plutonium 238	13981-16-3	0.059	0.12	0.219	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.040	0.152	1.00	U	PU
Potassium 40	13966-00-2	U		0.359		U	GAM
Cobalt 60	10198-40-0	U		0.031	0.050	U	GAM
Cesium 137	10045-97-3	U		0.030	0.050	U	GAM
Radium 226	13982-63-3	U		0.071	0.100	U	GAM
Radium 228	15262-20-1	U		0.130	0.200	U	GAM
Europium 152	14683-23-9	U		0.087	0.100	U	GAM
Europium 154	15585-10-1	U		0.096	0.100	U	GAM
Europium 155	14391-16-3	U		0.071	0.100	U	GAM
Thorium 228	14274-82-9	U		0.055		U	GAM
Thorium 232	TH-232	U		0.130		U	GAM
Uranium 235	15117-96-1	0.472	0.14	0.143			GAM
Uranium 238	U-238	19.3	4.1	3.76			GAM
Americium 241	14596-10-2	U		0.051		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-007 J17H25-B

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R809081-07	Client sample id	J17H25-B	
Dept sample id	7887-007	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID
Received	09/10/08	Collected/Volume	09/03/08 12:40	211 mL
		Custody/SAF No	RC-088-072	RC-088

Unknown Liquid Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-008 J17H28-B

DATA SHEET

SDG	7887	Client/Case no	Hanford SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00
Lab sample id	R809081-08	Client sample id	J17H28-B
Dept sample id	7887-008	Location/Matrix	618-7 Burial Grnd(drums) LIQUID
Received	09/10/08	Collected/Volume	09/03/08 14:40 265 mL
		Custody/SAF No	RC-088-072 RC-088

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	46.6	6.0	2.37	10.0		93A
Gross Beta	12587-47-2	57.5	5.6	4.49	15.0		93B
Total Strontium	SR-RAD	-0.004	0.13	0.251	1.00	U	SR
Americium 241	14596-10-2	0.157	0.19	0.346	1.00	U	AM
Thorium 228	14274-82-9	0	0.14	0.323	1.00	U	TH
Thorium 230	14269-63-7	-0.048	0.096	0.230	1.00	U	TH
Thorium 232	TH-232	-0.024	0.048	0.183	1.00	U	TH
Uranium 233/234	U-233/234	21.9	1.8	0.312	1.00		U
Uranium 235	15117-96-1	2.60	0.45	0.134	1.00		U
Uranium 238	U-238	15.1	1.4	0.303	1.00		U
Plutonium 238	13981-16-3	0	0.10	0.245	1.00	U	PU
Plutonium 239/240	PU-239/240	0.026	0.051	0.196	1.00	U	PU
Potassium 40	13966-00-2	U		0.581		U	GAM
Cobalt 60	10198-40-0	U		0.027	0.050	U	GAM
Cesium 137	10045-97-3	U		0.026	0.050	U	GAM
Radium 226	13982-63-3	U		0.061	0.100	U	GAM
Radium 228	15262-20-1	U		0.124	0.200	U	GAM
Europium 152	14683-23-9	U		0.076	0.100	U	GAM
Europium 154	15585-10-1	U		0.069	0.100	U	GAM
Europium 155	14391-16-3	U		0.097	0.100	U	GAM
Thorium 228	14274-82-9	U		0.133		U	GAM
Thorium 232	TH-232	U		0.124		U	GAM
Uranium 235	15117-96-1	1.45	0.16	0.193			GAM
Uranium 238	U-238	39.9	4.5	4.24			GAM
Americium 241	14596-10-2	U		0.134		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-008 J17H28-B

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809081-08	Client sample id	J17H28-B		
Dept sample id	7887-008	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 14:40	265 mL	
		Custody/SAF No	RC-088-072	RC-088	

Unknown Liquid Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-009 J17H30-B

DATA SHEET

SDG	7887	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809081-09	Client sample id	J17H30-B		
Dept sample id	7887-009	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/03/08 15:00	272 mL	
		Custody/SAF No	RC-088-073	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.421	1.0	1.85	10.0	U	93A
Gross Beta	12587-47-2	1.63	2.9	4.83	15.0	U	93B
Total Strontium	SR-RAD	-0.106	0.10	0.240	1.00	U	SR
Americium 241	14596-10-2	0.116	0.23	0.427	1.00	U	AM
Thorium 228	14274-82-9	0.096	0.19	0.320	1.00	U	TH
Thorium 230	14269-63-7	-0.024	0.14	0.228	1.00	U	TH
Thorium 232	TH-232	0.024	0.048	0.182	1.00	U	TH
Uranium 233/234	U-233/234	0.043	0.043	0.163	1.00	U	U
Uranium 235	15117-96-1	0	0.052	0.197	1.00	U	U
Uranium 238	U-238	0.021	0.043	0.163	1.00	U	U
Plutonium 238	13981-16-3	0.020	0.079	0.188	1.00	U	PU
Plutonium 239/240	PU-239/240	0.020	0.039	0.150	1.00	U	PU
Potassium 40	13966-00-2	U		1.26		U	GAM
Cobalt 60	10198-40-0	U		0.048	0.050	U	GAM
Cesium 137	10045-97-3	U		0.047	0.050	U	GAM
Radium 226	13982-63-3	U		0.102	0.100	U	GAM
Radium 228	15262-20-1	U		0.213	0.200	U	GAM
Europium 152	14683-23-9	U		0.124	0.100	U	GAM
Europium 154	15585-10-1	U		0.145	0.100	U	GAM
Europium 155	14391-16-3	U		0.105	0.100	U	GAM
Thorium 228	14274-82-9	U		0.070		U	GAM
Thorium 232	TH-232	U		0.213		U	GAM
Uranium 235	15117-96-1	U		0.158		U	GAM
Uranium 238	U-238	U		5.49		U	GAM
Americium 241	14596-10-2	U		0.098		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-009 **J17H30-B**

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R809081-09	Client sample id	J17H30-B	
Dept sample id	7887-009	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID
Received	09/10/08	Collected/Volume	09/03/08 15:00	272 mL
		Custody/SAF No	RC-088-073	RC-088

Unknown Liquid Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-010 J17H41-B

DATA SHEET

SDG	7887	Client/Case no	Hanford SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00
Lab sample id	R809081-10	Client sample id	J17H41-B
Dept sample id	7887-010	Location/Matrix	618-7 Burial Grnd(drums) LIQUID
Received	09/10/08	Collected/Volume	09/05/08 10:05 344 mL
		Custody/SAF No	RC-088-075 RC-088

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.315	0.96	1.82	10.0	U	93A
Gross Beta	12587-47-2	2.71	4.8	7.74	15.0	U	93B
Total Strontium	SR-RAD	0.016	0.15	0.292	1.00	U	SR
Americium 241	14596-10-2	0.045	0.18	0.430	1.00	U	AM
Thorium 228	14274-82-9	-0.024	0.14	0.321	1.00	U	TH
Thorium 230	14269-63-7	0.024	0.14	0.228	1.00	U	TH
Thorium 232	TH-232	0.024	0.048	0.182	1.00	U	TH
Uranium 233/234	U-233/234	0.193	0.12	0.147	1.00		U
Uranium 235	15117-96-1	0.023	0.047	0.178	1.00	U	U
Uranium 238	U-238	0	0.039	0.147	1.00	U	U
Plutonium 238	13981-16-3	-0.027	0.11	0.254	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.053	0.203	1.00	U	PU
Potassium 40	13966-00-2	U		1.89		U	GAM
Cobalt 60	10198-40-0	U		0.068	0.050	U	GAM
Cesium 137	10045-97-3	U		0.064	0.050	U	GAM
Radium 226	13982-63-3	U		0.151	0.100	U	GAM
Radium 228	15262-20-1	U		0.296	0.200	U	GAM
Europium 152	14683-23-9	U		0.194	0.100	U	GAM
Europium 154	15585-10-1	U		0.204	0.100	U	GAM
Europium 155	14391-16-3	U		0.148	0.100	U	GAM
Thorium 228	14274-82-9	U		0.113		U	GAM
Thorium 232	TH-232	U		0.296		U	GAM
Uranium 235	15117-96-1	U		0.301		U	GAM
Uranium 238	U-238	U		7.88		U	GAM
Americium 241	14596-10-2	U		0.068		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-010 **J17H41-B**

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R809081-10	Client sample id	J17H41-B	
Dept sample id	7887-010	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID
Received	09/10/08	Collected/Volume	09/05/08 10:05	344 mL
		Custody/SAF No	RC-088-075	RC-088

Unknown Liquid Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-011 **J17H42-B**

DATA SHEET

SDG	7887	Client/Case no	Hanford	SDG K1323	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R809081-11	Client sample id	J17H42-B		
Dept sample id	7887-011	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID	
Received	09/10/08	Collected/Volume	09/05/08 12:50	131 mL	
		Custody/SAF No	RC-088-075	RC-088	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	120	9.9	2.11	10.0		93A
Gross Beta	12587-47-2	127	8.5	6.11	15.0		93B
Total Strontium	SR-RAD	-0.048	0.12	0.267	1.00	U	SR
Americium 241	14596-10-2	0	0.21	0.492	1.00	U	AM
Thorium 228	14274-82-9	0.138	0.086	0.134	1.00		TH
Thorium 230	14269-63-7	0.057	0.067	0.088	1.00	U	TH
Thorium 232	TH-232	0.014	0.028	0.052	1.00	U	TH
Uranium 233/234	U-233/234	55.1	3.9	0.460	1.00		U
Uranium 235	15117-96-1	6.36	0.75	0.129	1.00		U
Uranium 238	U-238	39.2	2.9	0.440	1.00		U
Plutonium 238	13981-16-3	0.026	0.10	0.196	1.00	U	PU
Plutonium 239/240	PU-239/240	0	0.051	0.196	1.00	U	PU
Potassium 40	13966-00-2	U		0.394		U	GAM
Cobalt 60	10198-40-0	U		0.037	0.050	U	GAM
Cesium 137	10045-97-3	U		0.032	0.050	U	GAM
Radium 226	13982-63-3	U		0.064	0.100	U	GAM
Radium 228	15262-20-1	U		0.129	0.200	U	GAM
Europium 152	14683-23-9	U		0.094	0.100	U	GAM
Europium 154	15585-10-1	U		0.096	0.100	U	GAM
Europium 155	14391-16-3	U		0.116	0.100	U	GAM
Thorium 228	14274-82-9	0.079	0.055	0.060			GAM
Thorium 232	TH-232	U		0.129		U	GAM
Uranium 235	15117-96-1	2.96	0.21	0.231			GAM
Uranium 238	U-238	82.4	7.1	4.86			GAM
Americium 241	14596-10-2	U		1.14		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R809081-11	Client sample id	J17H42-B	
Dept sample id	7887-011	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID
Received	09/10/08	Collected/Volume	09/05/08 12:50	131 mL
		Custody/SAF No	RC-088-075	RC-088

Unknown Liquid Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

7887-012 **J17H43-B**

DATA SHEET

SDG	7887	Client/Case no	Hanford SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00
Lab sample id	R809081-12	Client sample id	J17H43-B
Dept sample id	7887-012	Location/Matrix	618-7 Burial Grnd(drums) LIQUID
Received	09/10/08	Collected/Volume	09/05/08 13:05 284 mL
		Custody/SAF No	RC-088-075 RC-088

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	-0.209	0.81	1.92	10.0	U	93A
Gross Beta	12587-47-2	2.31	2.9	4.80	15.0	U	93B
Total Strontium	SR-RAD	-0.088	0.11	0.250	1.00	U	SR
Americium 241	14596-10-2	0.046	0.18	0.349	1.00	U	AM
Thorium 228	14274-82-9	-0.023	0.064	0.118	1.00	U	TH
Thorium 230	14269-63-7	-0.023	0.055	0.096	1.00	U	TH
Thorium 232	TH-232	0.036	0.036	0.056	1.00	U	TH
Uranium 233/234	U-233/234	0.016	0.033	0.126	1.00	U	U
Uranium 235	15117-96-1	0.020	0.040	0.153	1.00	U	U
Uranium 238	U-238	0.066	0.066	0.126	1.00	U	U
Plutonium 238	13981-16-3	-0.020	0.081	0.223	1.00	U	PU
Plutonium 239/240	PU-239/240	-0.020	0.040	0.154	1.00	U	PU
Potassium 40	13966-00-2	U		1.22		U	GAM
Cobalt 60	10198-40-0	U		0.045	0.050	U	GAM
Cesium 137	10045-97-3	U		0.052	0.050	U	GAM
Radium 226	13982-63-3	U		0.108	0.100	U	GAM
Radium 228	15262-20-1	U		0.222	0.200	U	GAM
Europium 152	14683-23-9	U		0.141	0.100	U	GAM
Europium 154	15585-10-1	U		0.128	0.100	U	GAM
Europium 155	14391-16-3	U		0.129	0.100	U	GAM
Thorium 228	14274-82-9	U		0.081		U	GAM
Thorium 232	TH-232	U		0.222		U	GAM
Uranium 235	15117-96-1	U		0.204		U	GAM
Uranium 238	U-238	U		4.94		U	GAM
Americium 241	14596-10-2	U		0.186		U	GAM

618-7 Burial Ground-Other

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

DATA SHEET, cont

SDG	7887	Client/Case no	Hanford	SDG K1323
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R809081-12	Client sample id	J17H43-B	
Dept sample id	7887-012	Location/Matrix	618-7 Burial Grnd(drums)	LIQUID
Received	09/10/08	Collected/Volume	09/05/08 13:05	284 mL
		Custody/SAF No	RC-088-075	RC-088

Unknown Liquid Fraction

Lab id	EBRLNE
Protocol	Hanford1
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test AM Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

AMERICIUM 241 IN LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

AB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Americium 241	
:eparation batch 6160-140						
309081-01			7887-001	J17H25-A	U	
309081-02			7887-002	J17H28-A	U	
309081-03			7887-003	J17H30-A	U	
309081-04			7887-004	J17H41-A	U	
309081-05			7887-005	J17H42-A	U	
309081-06			7887-006	J17H43-A	U	
309081-07			7887-007	J17H25-B	U	
309081-08			7887-008	J17H28-B	U	
309081-09			7887-009	J17H30-B	U	
309081-10			7887-010	J17H41-B	U	
309081-11			7887-011	J17H42-B	U	
309081-12			7887-012	J17H43-B	U	
809081-13		R1	7887-013	Lab Control Sample	ok	
809081-14			7887-014	Method Blank	U	
809081-15			7887-015	Duplicate (R809081-07)	-	U

ominal values and limits from method RDLs (pCi/mL) 1.00
18-7 Burial Ground-Other

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test AM Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

AMERICIUM 241 IN LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

:ETHOD PERFORMANCE

AB AMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/mL	ALIQ mL	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
:eparation batch 6160-140			2σ prep error 8.0 % Reference Lab Notebook #6160, pg. 140													
309081-01			J17H25-A	0.456	0.507			39		182			13	09/16/08	09/16	SS-035
309081-02			J17H28-A	0.597	0.505			33		182			13	09/16/08	09/16	SS-036
309081-03			J17H30-A	0.302	0.505			44		174			14	09/16/08	09/17	SS-052
309081-04			J17H41-A	0.496	0.502			32		184			11	09/16/08	09/16	SS-027
309081-05			J17H42-A	0.332	0.513			45		184			11	09/16/08	09/16	SS-028
309081-06			J17H43-A	0.498	0.510			29		182			11	09/16/08	09/16	SS-062
309081-07			J17H25-B	0.305	0.565			40		237			13	09/16/08	09/16	SS-033
309081-08			J17H28-B	0.346	0.549			25		245			13	09/16/08	09/16	SS-051
309081-09			J17H30-B	0.427	0.575			33		182			13	09/16/08	09/16	SS-042
309081-10			J17H41-B	0.430	0.546			24		183			11	09/16/08	09/16	SS-051
309081-11			J17H42-B	0.492	0.538			24		183			11	09/16/08	09/16	SS-052
309081-12			J17H43-B	0.349	0.578			24		183			11	09/16/08	09/16	SS-053
309081-13		R1	Lab Control Sample	0.509	0.500			34		168				09/16/08	09/17	SS-027
309081-14			Method Blank	0.312	0.500			35		246				09/16/08	09/16	SS-052
309081-15			Duplicate (R809081-07)	0.825	0.565			18		168			14	09/16/08	09/17	SS-028
ominal values and limits from method				1.00	0.500			20-105		50	100		180			

mcm 9/18/8

PROCEDURES	REFERENCE	AMCMISO_IE_PLATE_AEA
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	CP-963	Americium and Curium in Water and Dissolved Samples by Extraction Chromatography, rev 6
	CP-008	Heavy Element Electroplating, rev 12

AVERAGES ± 2 SD FOR 15 SAMPLES
MDA 0.445 ± 0.277
YIELD 32 ± 16

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test PU Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

PLUTONIUM-238,239/240, LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

.ESULTS

AB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Plutonium 238		Plutonium 239/240	
:eparation batch 6160-140								
309081-01			7887-001	J17H25-A	U		U	
309081-02			7887-002	J17H28-A	U		U	
309081-03			7887-003	J17H30-A	U		U	
309081-04			7887-004	J17H41-A	U		U	
309081-05			7887-005	J17H42-A	U		U	
309081-06			7887-006	J17H43-A	U		U	
309081-07			7887-007	J17H25-B	U		U	
309081-08			7887-008	J17H28-B	U		U	
309081-09			7887-009	J17H30-B	U		U	
309081-10			7887-010	J17H41-B	U		U	
309081-11			7887-011	J17H42-B	U		U	
309081-12			7887-012	J17H43-B	U		U	
309081-13			7887-013	Lab Control Sample	ok		ok	
309081-14			7887-014	Method Blank	U		U	
309081-15			7887-015	Duplicate (R809081-07)	-	U	-	U
›minal values and limits from method				RDLs (pCi/mL)	1.00		1.00	
18-7 Burial Ground-Other								

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test PU Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

PLUTONIUM-238,239/240, LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

IETHOD PERFORMANCE

AB AMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MAX MDA pCi/mL	ALIQ mL	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
reparation batch 6160-140			2σ prep error 8.0 %		Reference Lab Notebook #6160, pg. 140											
809081-01			J17H25-A	0.261	0.507			76		121			10	09/13/08	09/13	SS-027
809081-02			J17H28-A	0.390	0.505			60		121			10	09/13/08	09/13	SS-028
809081-03			J17H30-A	0.350	0.505			68		122			10	09/13/08	09/13	SS-032
809081-04			J17H41-A	0.261	0.502			79		122			8	09/13/08	09/13	SS-033
809081-05			J17H42-A	0.300	0.513			76		122			8	09/13/08	09/13	SS-035
809081-06			J17H43-A	0.348	0.510			74		122			8	09/13/08	09/13	SS-036
809081-07			J17H25-B	0.219	0.565			78		123			10	09/13/08	09/13	SS-038
809081-08			J17H28-B	0.245	0.549			77		124			10	09/13/08	09/13	SS-042
809081-09			J17H30-B	0.188	0.575			77		123			10	09/13/08	09/13	SS-051
809081-10			J17H41-B	0.254	0.546			67		124			8	09/13/08	09/13	SS-052
809081-11			J17H42-B	0.196	0.538			69		124			8	09/13/08	09/13	SS-053
809081-12			J17H43-B	0.223	0.578			75		124			8	09/13/08	09/13	SS-062
809081-13			Lab Control Sample	0.663	0.500			57		124				09/13/08	09/13	SS-064
809081-14			Method Blank	0.207	0.500			85		125				09/13/08	09/13	SS-065
809081-15			Duplicate (R809081-07)	0.224	0.565			72		172			14	09/13/08	09/17	SS-028
ominal values and limits from method				1.00	0.500			20-105		50			180			

PROCEDURES	REFERENCE	PUISO_PLATE_AEA
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	CP-941	Plutonium in Water and Dissolved Samples by Extraction Chromatography, rev 3
	CP-008	Heavy Element Electroplating, rev 12

AVERAGES ± 2 SD FOR 15 SAMPLES				
MDA	0.289	±	0.240
YIELD	73	±	15

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test TH Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

THORIUM, ISOTOPIC IN LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

AB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Thorium 230
:eparation batch 6160-140					
309081-01			7887-001	J17H25-A	U
309081-02			7887-002	J17H28-A	U
309081-03			7887-003	J17H30-A	U
309081-04			7887-004	J17H41-A	U
309081-05			7887-005	J17H42-A	U
309081-06			7887-006	J17H43-A	U
309081-07			7887-007	J17H25-B	U
309081-08			7887-008	J17H28-B	U
309081-09			7887-009	J17H30-B	U
309081-10			7887-010	J17H41-B	U
309081-11			7887-011	J17H42-B	U
309081-12			7887-012	J17H43-B	U
309081-13			7887-013	Lab Control Sample	ok
309081-14			7887-014	Method Blank	U
309081-15			7887-015	Duplicate (R809081-07)	ok

ominal values and limits from method RDLs (pCi/mL) 1.00
18-7 Burial Ground-Other

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test TH Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

THORIUM, ISOTOPIC IN LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ETHOD PERFORMANCE

LB AMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MAX MDA pCi/mL	ALIQ mL	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
:eparation batch 6160-140			2σ prep error 8.0 %		Reference Lab Notebook #6160, pg. 140											
309081-01			J17H25-A	0.310	0.254			105		180			12	09/15/08	09/15	SS-027
309081-02			J17H28-A	0.384	0.252			94		179			12	09/15/08	09/15	SS-032
309081-03			J17H30-A	0.312	0.252			100		179			12	09/15/08	09/15	SS-033
309081-04			J17H41-A	0.416	0.251			97		178			10	09/15/08	09/15	SS-035
309081-05			J17H42-A	0.265	0.256			97		179			10	09/15/08	09/15	SS-037
309081-06			J17H43-A	0.343	0.255			99		179			10	09/15/08	09/15	SS-038
309081-07			J17H25-B	0.322	0.282			89		191			12	09/15/08	09/15	SS-063
309081-08			J17H28-B	0.323	0.275			97		174			14	09/15/08	09/17	SS-060
309081-09			J17H30-B	0.320	0.287			92		174			14	09/15/08	09/17	SS-062
309081-10			J17H41-B	0.321	0.273			97		182			11	09/15/08	09/16	SS-063
309081-11			J17H42-B	0.134	0.269			85		1011			10	09/15/08	09/15	SS-027
309081-12			J17H43-B	0.118	0.289			100		1010			10	09/15/08	09/15	SS-032
809081-13			Lab Control Sample	0.101	0.250			102		1009				09/15/08	09/15	SS-035
809081-14			Method Blank	0.404	0.250			102		174				09/15/08	09/17	SS-056
809081-15			Duplicate (R809081-07)	0.116	0.282			99		1009			12	09/15/08	09/15	SS-038
ominal values and limits from method				1.00	0.250			20-110		100	100		180			

PROCEDURES	REFERENCE	THISO_IE_PLATE_AEA
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	CP-900	Thorium in Water and Dissolved Solid Samples by Extraction Chromatography, rev 1
	CP-008	Heavy Element Electroplating, rev 12

AVERAGES ± 2 SD FOR 15 SAMPLES
MDA 0.279 ± 0.217
YIELD 97 ± 10

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test U Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

URANIUM IN LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

.ESULTS

AB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	1: Uranium 233/234	2: Uranium 235	3: Uranium 238	RESULT RATIOS (%) 1+3	2σ	2+3	2σ
:eparation batch 6160-140											
309081-01			7887-001	J17H25-A	1.34	U	0.737	182	73	15	13
309081-02			7887-002	J17H28-A	50.6	5.55	35.2	144	16	16	3
309081-03			7887-003	J17H30-A	U	U	U				
309081-04			7887-004	J17H41-A	2.21	0.280	1.58	140	43	18	10
309081-05			7887-005	J17H42-A	3.52	0.333	2.22	159	48	15	9
309081-06			7887-006	J17H43-A	1.21	U	1.05	115	45	16	14
309081-07			7887-007	J17H25-B	7.63	0.906	5.49	139	23	17	5
309081-08			7887-008	J17H28-B	21.9	2.60	15.1	145	18	17	3
309081-09			7887-009	J17H30-B	U	U	U				
309081-10			7887-010	J17H41-B	0.193	U	U				
309081-11			7887-011	J17H42-B	55.1	6.36	39.2	141	14	16	2
309081-12			7887-012	J17H43-B	U	U	U				
309081-13			7887-013	Lab Control Sample	ok	ok	ok				
309081-14			7887-014	Method Blank	U	U	U				
309081-15			7887-015	Duplicate (R809081-07)	ok	ok	ok	133	21	16	4
ominal values and limits from method				RDLs (pCi/mL)	1.00	1.00	1.00				
18-7 Burial Ground-Other								Averages 144		16	

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test U Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

URANIUM IN LIQUID

ALPHA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ETHOD PERFORMANCE

AB MPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MAX MDA pCi/mL	ALIQ mL	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
:eparation batch 6160-140			2σ prep error 8.0 %	Reference Lab Notebook #6160, pg. 140												
309081-01			J17H25-A	0.171	0.507			91		130			9	09/12/08	09/12	SS-027
309081-02			J17H28-A	0.510	0.505			105		130			9	09/12/08	09/12	SS-028
309081-03			J17H30-A	0.196	0.505			94		131			9	09/12/08	09/12	SS-032
309081-04			J17H41-A	0.178	0.502			90		132			7	09/12/08	09/12	SS-033
309081-05			J17H42-A	0.239	0.513			82		132			7	09/12/08	09/12	SS-034
309081-06			J17H43-A	0.184	0.510			80		131			7	09/12/08	09/12	SS-035
309081-07			J17H25-B	0.211	0.565			103		132			9	09/12/08	09/12	SS-036
309081-08			J17H28-B	0.312	0.549			102		132			9	09/12/08	09/12	SS-038
309081-09			J17H30-B	0.197	0.575			94		133			9	09/12/08	09/12	SS-040
309081-10			J17H41-B	0.178	0.546			95		133			7	09/12/08	09/12	SS-042
309081-11			J17H42-B	0.460	0.538			106		135			7	09/12/08	09/12	SS-051
309081-12			J17H43-B	0.153	0.578			93		135			7	09/12/08	09/12	SS-052
309081-13			Lab Control Sample	0.730	0.500			105		135				09/12/08	09/12	SS-053
309081-14			Method Blank	0.145	0.500			103		136				09/12/08	09/12	SS-062
309081-15			Duplicate (R809081-07)	0.199	0.565			102		144			9	09/12/08	09/12	SS-063
ominal values and limits from method				1.00	0.500					100			180			

PROCEDURES	REFERENCE	UISO_PLATE_AEA
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	CP-921	Uranium in Water and Dissolved Samples by Extraction Chromatography, rev 1
	CP-008	Heavy Element Electroplating, rev 12

AVERAGES ± 2 SD FOR 15 SAMPLES
MDA 0.271 ± 0.334
YIELD 96 ± 17

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test SR Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

TOTAL STRONTIUM IN LIQUIDS

BETA COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

ıB ıMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Total Strontium	
:eparation batch 6160-140						
309081-01			7887-001	J17H25-A	U	
309081-02			7887-002	J17H28-A	U	
309081-03			7887-003	J17H30-A	U	
309081-04			7887-004	J17H41-A	U	
309081-05			7887-005	J17H42-A	U	
309081-06			7887-006	J17H43-A	U	
309081-07			7887-007	J17H25-B	U	
309081-08			7887-008	J17H28-B	U	
309081-09			7887-009	J17H30-B	U	
309081-10			7887-010	J17H41-B	U	
309081-11			7887-011	J17H42-B	U	
809081-12			7887-012	J17H43-B	U	
809081-13			7887-013	Lab Control Sample	ok	
809081-14			7887-014	Method Blank	U	
809081-15			7887-015	Duplicate (R809081-07)	-	U

ominal values and limits from method RDLs (pCi/mL) 1.00
18-7 Burial Ground-Other

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test SR Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

TOTAL STRONTIUM IN LIQUIDS

BETA COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

IETHOD PERFORMANCE

AB AMPLE ID	RAW TEST	SUF- FIX	CLIENT SAMPLE ID	MDA pCi/mL	ALIQ mL	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
reparation batch 6160-140			2σ prep error 10.4 % Reference Lab Notebook #6160, pg. 140													
309081-01			J17H25-A	0.248	1.02			94		100			12	09/15/08	09/15	GRB-218
309081-02			J17H28-A	0.266	1.01			88		100			12	09/15/08	09/15	GRB-220
309081-03			J17H30-A	0.275	1.01			90		100			12	09/15/08	09/15	GRB-221
309081-04			J17H41-A	0.273	1.00			87		100			10	09/15/08	09/15	GRB-222
309081-05			J17H42-A	0.288	1.03			81		100			10	09/15/08	09/15	GRB-223
309081-06			J17H43-A	0.279	1.02			84		100			10	09/15/08	09/15	GRB-224
309081-07			J17H25-B	0.260	1.13			88		100			12	09/15/08	09/15	GRB-225
309081-08			J17H28-B	0.251	1.10			91		100			12	09/15/08	09/15	GRB-227
309081-09			J17H30-B	0.240	1.15			86		100			12	09/15/08	09/15	GRB-228
309081-10			J17H41-B	0.292	1.09			84		100			10	09/15/08	09/15	GRB-229
309081-11			J17H42-B	0.267	1.08			86		100			10	09/15/08	09/15	GRB-230
309081-12			J17H43-B	0.250	1.16			90		100			10	09/15/08	09/15	GRB-231
309081-13			Lab Control Sample	0.274	1.00			92		100				09/15/08	09/15	GRB-232
309081-14			Method Blank	0.338	1.00			93		100				09/15/08	09/15	GRB-201
309081-15			Duplicate (R809081-07)	0.247	1.15			89		100			12	09/15/08	09/15	GRB-207
ominal values and limits from method				1.00	1.00					100			180			

PROCEDURES	REFERENCE	SRTOT_SEP_PRECIP_GPC
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	CP-383	Strontium in Dissolved Solid of < 5.0g Aliquot, rev 1

AVERAGES ± 2 SD FOR 15 SAMPLES				
	MDA	0.270	±	0.049
	YIELD	88	±	7

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test 93A Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS ALPHA IN LIQUID

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

LB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha
:eparation batch 6160-140					
309081-01	93		7887-001	J17H25-A	3.50
309081-02	93		7887-002	J17H28-A	105
309081-03	93		7887-003	J17H30-A	U
309081-04	93		7887-004	J17H41-A	2.87
309081-05	93		7887-005	J17H42-A	6.02
309081-06	93		7887-006	J17H43-A	U
309081-07	93		7887-007	J17H25-B	15.2
309081-08	93		7887-008	J17H28-B	46.6
309081-09	93		7887-009	J17H30-B	U
309081-10	93		7887-010	J17H41-B	U
309081-11	93		7887-011	J17H42-B	120
309081-12	93		7887-012	J17H43-B	U
309081-13	93		7887-013	Lab Control Sample	ok
309081-14	93		7887-014	Method Blank	U
309081-15	93		7887-015	Duplicate (R809081-07)	ok

ominal values and limits from method RDLs (pCi/mL) 10.0
18-7 Burial Ground-Other

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test 93A Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS ALPHA IN LIQUID

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

:ETHOD PERFORMANCE

ıB AMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/mL	ALIQ mL	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
:eparation batch 6160-140			2σ prep error 20.6 % Reference Lab Notebook #6160, pg. 140													
309081-01	93		J17H25-A	1.94	0.102			1		100			12	09/13/08	09/15	GRB-101
309081-02	93		J17H28-A	2.56	0.101			1		100			12	09/13/08	09/15	GRB-103
309081-03	93		J17H30-A	2.28	0.101			0		100			12	09/13/08	09/15	GRB-104
309081-04	93		J17H41-A	2.17	0.100			2		100			8	09/13/08	09/13	GRB-105
309081-05	93		J17H42-A	1.94	0.103			0		100			8	09/13/08	09/13	GRB-107
309081-06	93		J17H43-A	2.26	0.102			1		100			8	09/13/08	09/13	GRB-108
309081-07	93		J17H25-B	1.80	0.113			0		100			11	09/13/08	09/14	GRB-103
309081-08	93		J17H28-B	2.37	0.110			1		100			11	09/13/08	09/14	GRB-104
309081-09	93		J17H30-B	1.85	0.115			0		100			11	09/13/08	09/14	GRB-105
309081-10	93		J17H41-B	1.82	0.109			0		100			9	09/13/08	09/14	GRB-107
309081-11	93		J17H42-B	2.11	0.107			0		100			9	09/13/08	09/14	GRB-108
309081-12	93		J17H43-B	1.92	0.116			0		100			10	09/13/08	09/15	GRB-105
309081-13	93		Lab Control Sample	5.97	0.100			64		100				09/13/08	09/15	GRB-107
309081-14	93		Method Blank	6.85	0.100			63		100				09/13/08	09/15	GRB-108
309081-15	93		Duplicate (R809081-07)	2.60	0.113			0		100			12	09/13/08	09/15	GRB-213
ɔminal values and limits from method				10.0	0.100			5-250		100			180			

PROCEDURES	REFERENCE	900.0_ALPHABETA_GPC
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	SPP-120	Gross Alpha and Gross Beta in Water, rev 0

AVERAGES ± 2 SD FOR 15 SAMPLES
MDA 2.70 ± 3.08
RESIDUE 9 ± 44

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test 93B Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS BETA IN LIQUID

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

:ESULTS

AB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta
reparation batch 6160-140					
309081-01	93		7887-001	J17H25-A	U
309081-02	93		7887-002	J17H28-A	57.2
309081-03	93		7887-003	J17H30-A	U
309081-04	93		7887-004	J17H41-A	U
309081-05	93		7887-005	J17H42-A	U
309081-06	93		7887-006	J17H43-A	U
309081-07	93		7887-007	J17H25-B	23.0
309081-08	93		7887-008	J17H28-B	57.5
309081-09	93		7887-009	J17H30-B	U
309081-10	93		7887-010	J17H41-B	U
309081-11	93		7887-011	J17H42-B	127
309081-12	93		7887-012	J17H43-B	U
309081-13	93		7887-013	Lab Control Sample	ok
309081-14	93		7887-014	Method Blank	U
309081-15	93		7887-015	Duplicate (R809081-07)	ok

ominal values and limits from method RDLs (pCi/mL) 15.0
18-7 Burial Ground-Other

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test 93B Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS BETA IN LIQUID

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ETHOD PERFORMANCE

AB AMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/mL	ALIQ mL	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
eparation batch 6160-140			2σ prep error 11.0 % Reference Lab Notebook #6160, pg. 140													
309081-01	93		J17H25-A	4.85	0.102			1		100			12	09/13/08	09/15	GRB-101
309081-02	93		J17H28-A	6.62	0.101			1		100			12	09/13/08	09/15	GRB-103
309081-03	93		J17H30-A	4.79	0.101			0		100			12	09/13/08	09/15	GRB-104
309081-04	93		J17H41-A	5.56	0.100			2		100			8	09/13/08	09/13	GRB-105
309081-05	93		J17H42-A	8.19	0.103			0		100			8	09/13/08	09/13	GRB-107
309081-06	93		J17H43-A	6.42	0.102			1		100			8	09/13/08	09/13	GRB-108
309081-07	93		J17H25-B	5.88	0.113			0		100			11	09/13/08	09/14	GRB-103
309081-08	93		J17H28-B	4.49	0.110			1		100			11	09/13/08	09/14	GRB-104
309081-09	93		J17H30-B	4.83	0.115			0		100			11	09/13/08	09/14	GRB-105
309081-10	93		J17H41-B	7.74	0.109			0		100			9	09/13/08	09/14	GRB-107
309081-11	93		J17H42-B	6.11	0.107			0		100			9	09/13/08	09/14	GRB-108
309081-12	93		J17H43-B	4.80	0.116			0		100			10	09/13/08	09/15	GRB-105
309081-13	93		Lab Control Sample	8.87	0.100			64		100				09/13/08	09/15	GRB-107
309081-14	93		Method Blank	6.67	0.100			63		100				09/13/08	09/15	GRB-108
309081-15	93		Duplicate (R809081-07)	7.51	0.113			0		100			12	09/13/08	09/15	GRB-213
ominal values and limits from method				15.0	0.100			5-250		100			180			

PROCEDURES	REFERENCE	900.0_ALPHABETA_GPC
	SPP-071	Soil Dissolution, > 1.0g Aliquot, rev 5
	SPP-120	Gross Alpha and Gross Beta in Water, rev 0

AVERAGES ± 2 SD FOR 15 SAMPLES
MDA 6.22 ± 2.76
RESIDUE 9 ± 44

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test GAM Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA SCAN IN LIQUID

GAMMA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

ESULTS

ıB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt 60		Cesium 137	
:eparation batch 6160-140								
109081-01			7887-001	J17H25-A	U		U	
109081-02			7887-002	J17H28-A	U		U	
109081-03			7887-003	J17H30-A	U		U	
109081-04			7887-004	J17H41-A	U		U	
109081-05			7887-005	J17H42-A	U		U	
109081-06			7887-006	J17H43-A	U		U	
109081-07			7887-007	J17H25-B	U		U	
109081-08			7887-008	J17H28-B	U		U	
109081-09			7887-009	J17H30-B	U		U	
109081-10			7887-010	J17H41-B	U		U	
109081-11			7887-011	J17H42-B	U		U	
109081-12			7887-012	J17H43-B	U		U	
109081-13			7887-013	Lab Control Sample	ok		ok	
109081-14			7887-014	Method Blank	U		U	
109081-15			7887-015	Duplicate (R809081-07)	-	U	-	U
ominal values and limits from method				RDLs (pCi/mL)	0.050		0.050	
18-7 Burial Ground-Other								

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1323

Test GAM Matrix LIQUID
SDG 7887
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA SCAN IN LIQUID

GAMMA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1323

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MAX MDA pCi/mL	ALIQ mL	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
reparation batch 6160-140			2σ prep error 7.0 %	Reference Lab Notebook #6160, pg. 140												
309081-01			J17H25-A	0.038	101					404			9	09/11/08	09/12	JR,02,00
309081-02			J17H28-A	0.076	100					404			9	09/11/08	09/12	JR,04,00
309081-03			J17H30-A	0.055	100					404			9	09/11/08	09/12	JR,01,00
309081-04			J17H41-A	0.108	100					404			7	09/11/08	09/12	JR,06,00
309081-05			J17H42-A	0.053	100					404			7	09/11/08	09/12	JR,07,00
309081-06			J17H43-A	0.082	101					404			7	09/11/08	09/12	JR,08,00
309081-07			J17H25-B	0.031	101					971			9	09/11/08	09/12	JR,01,00
309081-08			J17H28-B	0.027	100					971			9	09/11/08	09/12	JR,02,00
309081-09			J17H30-B	0.048	101					971			9	09/11/08	09/12	JR,04,00
309081-10			J17H41-B	0.068	100					971			7	09/11/08	09/12	JR,06,00
309081-11			J17H42-B	0.037	101					972			7	09/11/08	09/12	JR,07,00
309081-12			J17H43-B	0.052	100					972			7	09/11/08	09/12	JR,08,00
309081-13			Lab Control Sample	0.068	100					961				09/11/08	09/12	JR,05,00
309081-14			Method Blank	0.042	100					424				09/11/08	09/13	JR,02,00
309081-15			Duplicate (R809081-07)	0.054	101					424			10	09/11/08	09/13	JR,01,00
ominal values and limits from method				0.050	100					100			180			

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

AVERAGES ± 2 SD FOR 15 SAMPLES
MDA 0.056 ± 0.043
YIELD ____ ± ____

Lab id EBRLNE
Protocol Hanford1
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 09/18/08

SDG 7887
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

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.

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Protocol Hanford1
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 09/18/08

SDG 7887
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1323

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.

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Form DVD-RG
Version 3.06
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REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1323

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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SDG 7887
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REPORT GUIDE

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Contract No. S00W235A00
Case no SDG_K1323

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_K1323

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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Contract No. S00W235A00
Case no SDG_K1323

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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Protocol Hanford1
Version Ver 1.0
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Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG K1323

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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Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
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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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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.

SDG 7887
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
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Case no SDG_K1323

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.

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-088-072	Page 1 of 1

Collector S. Deeter	**Company Contact** Joan Kessner	**Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH
Price Code	**Data Turnaround** ~~15~~ 7 Days		
Project Designation 618-7 Burial Ground - Other	**Sampling Location** 618-7 Burial Ground (drums) K1323 (7887)		**SAF No.** RC-088
Ice Chest No. RC-96-028	**Field Logbook No.** EL-1395-13	**COA** RG61878500	**Method of Shipment** Fed Ex RK 9/3/08
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A080336		**Bill of Lading/Air Bill No.** See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination. potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None				
Type of Container	aG	aG	aG	aG	aG	P				
No. of Container(s)	1	1	0	0	0	1				
Volume	40mL	250mL	125mL	125mL	60mL	500mL				
SAMPLE ANALYSIS MCM 9/10/8 A - unknown liquid fraction	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082 RK 9/3/08	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.				PIN #
Sample No. / Matrix * / Sample Date / Sample Time										
J17H25 - A / OTHER / 9/3/08 / 1240						X				6960
~~J17H26 / OTHER / 1345~~						X				~~7144~~
~~J17H27 / OTHER / 1405~~						X				~~7140~~
J17H28 - A / OTHER / 1440						X				7034
~~J17H29 / OTHER / 9/3/08 / 1450~~						X				~~7035~~

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: S DEETER	1700 9-3-08	RT COFFMAN / RT Coffman	1700 9/3/08
Relinquished By/Removed From: RT Coffman / RT Coffman	1900 9/3/08	RT COFFMAN 1B, 1060, 9/3/08	1900
Relinquished By/Removed From: 1060/1B	1045 SEP 0 8 2008	M Stankovich	1045 SEP 0 8 2008
Relinquished By/Removed From: WCH M Stankovich	1045 SEP 0 8 2008	Received By/Stored In: Fed Ex	Date/Time
Relinquished By/Removed From: FED EX	Date/Time	Received By/Stored In: [illegible] 09	10/08 09:05
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

Matrix *

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

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

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-073	Page 1 of 1

Collector S. Deeter	**Company Contact** Joan Kessner **Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH	**Price Code** / **Data Turnaround** ~~15~~ 7 Days
Project Designation 618-7 Burial Ground - Other	**Sampling Location** 618-7 Burial Ground (drums) K1323 (7887)	**SAF No.** RC-088	
Ice Chest No. ERC-96-028	**Field Logbook No.** EL-1395-13 / **COA** RG61878500	**Method of Shipment** FedEx RTC 9/3/08	
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A080336	**Bill of Lading/Air Bill No.** See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None				
Type of Container	aG	aG	aG	aG	aG	P				
No. of Container(s)	1	1	0	0	0	1				
Volume	40mL	250mL	125mL	125mL	60mL	500mL				
SAMPLE ANALYSIS MCM 9/10/08 A - unknown liquid fraction	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082 RTC 9/3/08	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.				PIN #
Sample No. / Matrix * / Sample Date / Sample Time										
J17H30 - A / OTHER / 9/3/08 / 1500						X				7045
~~J17H31 / OTHER / 9/3/08 / 1530~~						X				7142
~~J17H32 / OTHER / 9/3/08 / 1540~~						X				7141
~~J17H33 / OTHER~~										
~~J17H34 / OTHER~~										

RTC 9/3/08

CHAIN OF POSSESSION	Sign/Print Names
Relinquished By/Removed From: SOFTWARE Date/Time 1700 9-3-08	Received By/Stored In: RTCoffman/RTCoffman Date/Time 1700 9/3/08
Relinquished By/Removed From: RTCoffman/RTCoffman Date/Time 1900 9/3/08	Received By/Stored In: REFER # 1B, 1060 Date/Time 9/3/08
Relinquished By/Removed From: 1060/1B Date/Time 1045 SEP 08 2008	Received By/Stored In: MSTankebouch Date/Time 1045 SEP 08 2008
Relinquished By/Removed From: WCH MSTankebouch Date/Time 1045 SEP 08 2008	Received By/Stored In: FedEx Date/Time
Relinquished By/Removed From: FED EX Date/Time	Received By/Stored In: 09/10/08 04:05 Date/Time
Relinquished By/Removed From: Date/Time	Received By/Stored In: Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) (Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc); ICP Metals - 6010A (Add-on) (Arsenic, Lead, Selenium, Thallium, Tin, Zirconium); Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

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Matrix *

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

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

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-075	Page 1 of 1

Collector S. Deeter	**Company Contact** Joan Kessner **Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH	**Price Code** / **Data Turnaround** ~~15~~ 7 Days
Project Designation 618-7 Burial Ground - Other	**Sampling Location** 618-7 Burial Ground (drums) K1323 (7887)	**SAF No.** RC-088	
Ice Chest No. RCC-08-030	**Field Logbook No.** EL-1395-13 / **COA** RG61878500	**Method of Shipment** Fed Ex JRD 9/5/08	
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A080337	**Bill of Lading/Air Bill No.** see ospc	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None					
Type of Container	aG	aG	aG	aG	aG	P					
No. of Container(s)	1	1	0	0	0	1					
Volume	40mL	250mL	125mL	125mL	60mL	500mL					
SAMPLE ANALYSIS mcm 9/10/8 A - unknown liquid fraction	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.					

Sample No.	Matrix *	Sample Date	Sample Time								RCF #	Drum #
~~J17H40~~	~~OTHER~~	~~9/5/08~~	~~0950~~		9/5/08				X		J17H70	7039
J17H41 - A	OTHER	9/5/08	1005	JRD					X		J17H71	7042
J17H42 - A	OTHER	9/5/08	1250						X		J17H72	7038
J17H43 - A	OTHER	9/5/08	1305						X		J17H73	7161
~~J17H44~~	~~OTHER~~	~~9/5/08~~	~~1320~~						~~X~~		J17H74	7037

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: SDEETER	1650 9-5-08	Received By/Stored In: JRDeBuigne JRDeBuigne	1630 9/5/08
Relinquished By/Removed From: JRDeBuigne JRDeBuigne	1700 9/5/08	Received By/Stored In: 1060 IB	1700 9/5/08
Relinquished By/Removed From: 1060/IB	0900 SEP 09 2008	Received By/Stored In: MSTankovich	0900 SEP 09 2008
Relinquished By/Removed From: WCH MSTankovich	0900 SEP 09 2008	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: Fed EX		Received By/Stored In:	09/10/08 09:05
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) [Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc]; ICP Metals - 6010A (Add-on) [Arsenic, Lead, Selenium, Thallium, Tin, Zirconium]; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) [Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155]; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

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

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

WCH-EE-011

KMW

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-072	Page 1 of 1

Collector S. Deeter	**Company Contact** Joan Kessner **Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH	**Price Code** / **Data Turnaround** ~~15~~ 7 Days
Project Designation 618-7 Burial Ground - Other	**Sampling Location** 618-7 Burial Ground (drums) K1323 (7887)	**SAF No.** RC-088	
Ice Chest No. RC-96-028	**Field Logbook No.** EL-1395-13 / **COA** RG61878500	**Method of Shipment** Fed Ex RK 9/3/08	
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A080336	**Bill of Lading/Air Bill No.** See OSPC	

~~POSSIBLE SAMPLE HAZARDS/REMARKS~~

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None				
Type of Container	aG	aG	aG	aG	aG	P				
No. of Container(s)	1	1	0	0	0	1				
Volume	40mL	250mL	125mL	125mL	60mL	500mL				
SAMPLE ANALYSIS B - oil fraction MCM 9/10/08	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082 RK 9/3/08	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.				PIN #
Sample No. / Matrix * / Sample Date / Sample Time										
J17H25 - B / OTHER / 9/3/08 / 1240						X				6960
~~J17H26 / OTHER / 1345~~						X				~~7144~~
~~J17H27 / OTHER / 1405~~						X				~~7140~~
J17H28 - B / OTHER / 1440						X				7034
~~J17H29 / OTHER / 9/3/08 / 1450~~						X				~~7035~~

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: S DEETER	1700 9-3-08	Received By/Stored In: RT COFFMAN / RT Coffman	1700 9/3/08
Relinquished By/Removed From: RT COFFMAN / RT Coffman	1900 9/3/08	Received By/Stored In: REFER IB, 1060, 9/3/08	1900
Relinquished By/Removed From: 1060/IB	1045 SEP 08 2008	Received By/Stored In: mstankovich	1045 SEP 08 2008
Relinquished By/Removed From: WCH mstankovich	1045 SEP 08 2008	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: FED EX		Received By/Stored In: Fry	09/10/08 09:05
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gross Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

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SO=Solid
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DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

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

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-073	Page 1 of 1

Collector S. Deeter	**Company Contact** Joan Kessner	**Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH
Project Designation 618-7 Burial Ground - Other	**Sampling Location** 618-7 Burial Ground (drums) K1323 (7887)		**SAF No.** RC-088
Ice Chest No. ERC-96-028	**Field Logbook No.** EL-1395-13	**COA** RG61878500	**Method of Shipment** FedEx RTC 9/3/08
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A080336		**Bill of Lading/Air Bill No.** See OSPC

Price Code

Data Turnaround ~~15~~ 7 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None					
Type of Container	aG	aG	aG	aG	aG	P					
No. of Container(s)	1	1	0	0	0	1					
Volume	40mL	250mL	125mL	125mL	60mL	500mL					
SAMPLE ANALYSIS B - oil fraction MLM 9/10/08	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082 RTC 9/3/08	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.					PIN #
Sample No.	Matrix *	Sample Date	Sample Time								
J17H30 - B	OTHER	9/3/08	1500						X			7045
~~J17H31~~	~~OTHER~~	~~9/3/08~~	~~1530~~						X			7142
~~J17H32~~	~~OTHER~~	~~9/3/08~~	~~1540~~						X			7141
~~J17H33~~	~~OTHER~~										
~~J17H34~~	~~OTHER~~										

RTC 9/3/08

CHAIN OF POSSESSION	Sign/Print Names
Relinquished By/Removed From: S DEETER — Date/Time 1700 9-3-08	Received By/Stored In: RT Coffman/RT Coffman — Date/Time 1700 9/3/08
Relinquished By/Removed From: RT Coffman/RT Coffman — Date/Time 1900 9/3/08	Received By/Stored In: REFER # 1B, 1060 — Date/Time 9/3/08
Relinquished By/Removed From: 1060/1B — Date/Time 2045 SEP 08 2008	Received By/Stored In: MS Stankovich — Date/Time 2045 SEP 08 2008
Relinquished By/Removed From: MS Stankovich — Date/Time 1045 SEP 08 2008	Received By/Stored In: Fed Ex — Date/Time
Relinquished By/Removed From: FED EX — Date/Time	Received By/Stored In: — Date/Time 09/10/08 09:05
Relinquished By/Removed From — Date/Time	Received By/Stored In — Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

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Matrix *

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DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

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

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-075	Page 1 of 1

Collector S. Deeter	**Company Contact** Joan Kessner	**Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH
Price Code	**Data Turnaround** 15 Days		
Project Designation 618-7 Burial Ground - Other	**Sampling Location** 618-7 Burial Ground (drums) K1323 (7887)		**SAF No.** RC-088
Ice Chest No. RCC-08-030	**Field Logbook No.** EL-1395-13	**COA** RG61878500	**Method of Shipment** FedEx JRD 9/5/08
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A080337		**Bill of Lading/Air Bill No.** see ospc

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None					
Type of Container	aG	aG	aG	aG	aG	P					
No. of Container(s)	1	1	0	0	0	1					
Volume	40mL	250mL	125mL	125mL	60mL	500mL					
SAMPLE ANALYSIS	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.				RCF #	Drum #
B - oil fraction MCM 9/10/8		9/5/08									
Sample No. / Matrix * / Sample Date / Sample Time											
~~J17H40 / OTHER / 9/5/08 / 0950~~						X				~~J17H70~~	~~7039~~
J17H41 - B / OTHER / 9/5/08 / 1005						X				J17H71	7042
J17H42 - B / OTHER / 9/5/08 / 1250						X				J17H72	7038
J17H43 - B / OTHER / 9/5/08 / 1305						X				J17H73	7161
~~J17H44 / OTHER / 9/5/08 / 1320~~						~~X~~				~~J17H74~~	~~7037~~

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: SDEETER	1650 9-5-08	Received By/Stored In: JRDeBuique JRDeBuique	1630 9/5/08
Relinquished By/Removed From: JRDeBuique JRDeBuique	1700 9/5/08	Received By/Stored In: 1060 IB	1700 9/5/08
Relinquished By/Removed From: 1060/IB	0900 SEP 09 2008	Received By/Stored In: MSTankovich	0900 SEP 09 2008
Relinquished By/Removed From: MSTankovich	0900 SEP 09 2008	Received By/Stored In: FedEx	
Relinquished By/Removed From: FED EX		Received By/Stored In:	09/10/08 09:65
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

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DS=Drum Solids
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T=Tissue
WI=Wipe
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V=Vegetation
X=Other

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

WCH-EE-011

KMW

SAMPLE RECEIPT CHECKLIST

Client: W.C. HANFORD City RICHLAND State WA

Date/Time received 09/10/08 09:05 CoC No. RC-888-071, 072, 073, 075

Container I.D. No. RCC-08-030 ERC-96-028 Requested TAT (Days) 7 P.O. Received Yes [ ] No [ ]

INSPECTION

1	Custody seals on shipping container intact?	Yes [X]	No [ ]	N/A [ ]
2	Custody seals on shipping container dated & signed?	Yes [X]	No [ ]	N/A [ ]
3	Custody seals on sample containers intact?	Yes [X]	No [ ]	N/A [ ]
4	Custody seals on sample containers dated & signed?	Yes [X]	No [ ]	N/A [ ]
5	Packing material is:	Wet [ ]	Dry [X]	
6	Number of samples in shipping container 15	Sample Matrix X LIQUID		
7	Number of containers per sample 1	(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:
SAMPLES J17H25, 28, 30, 41, 42 and 43 HAVE TWO LAYERS OF DIFFERENT LIQUIDS

14 Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____

15 Inspected by [signature] Date 09/10/08 Time 09:20

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

Ion Chamber Ser. No _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

Beta/Gamma Meter Ser. No. 100482 Calibration date 10JUL08

LIONVILLE LABORATORY INC.

14 October 2008

RECEIVED
OCT 2008

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

Subject: Analytical Data Package

Dear Ms. Kessner:

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

LvLI Batch #	0809L085
SDG #	K1323
SAF #	RC-088
Date Received	9/10/08
# Samples	15
Matrix	OTHER
Volatiles	X
Semivolatiles	X
Pest/PCB	X
Glycols	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	X
Inorganics	X

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

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager
d:\k1328.doc

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

Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

RECEIVED OCT 2008

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID	LVL #		MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17H40	001	M1	OI	08LVG155	09/05/08	N/A	09/15/08
J17H41	002	M1	OI	08LVG155	09/05/08	N/A	09/15/08
J17H42	003	M1	OI	08LVG155	09/05/08	N/A	09/15/08
J17H43	004	M1	OI	08LVG155	09/05/08	N/A	09/15/08
J17H44	005	M1	OI	08LVG157	09/05/08	N/A	09/16/08
J17H23	006	M1	OI	08LVG157	09/03/08	N/A	09/16/08
J17H24	007	M1	OI	08LVG157	09/03/08	N/A	09/16/08
J17H25	008	M1	OI	08LVG157	09/03/08	N/A	09/16/08
J17H26	009	M1	OI	08LVG157	09/03/08	N/A	09/16/08
J17H27	010	M1	OI	08LVG155	09/03/08	N/A	09/15/08
J17H28	011	M1	OI	08LVG155	09/03/08	N/A	09/15/08
J17H28	011 MS	M1	OI	08LVG157	09/03/08	N/A	09/16/08
J17H28	011 MSD	M1	OI	08LVG157	09/03/08	N/A	09/16/08
J17H29	012	M1	OI	08LVG155	09/03/08	N/A	09/15/08
J17H30	013	M1	OI	08LVG155	09/03/08	N/A	09/15/08
J17H30	013	N1	OI	08LVG157	09/03/08	N/A	09/16/08
J17H31	014	M1	OI	08LVG155	09/03/08	N/A	09/15/08
J17H32	015	M1	OI	08LVG155	09/03/08	N/A	09/15/08
LAB QC:							
VBLKGK	MB1		S	08LVG155	N/A	N/A	09/15/08
VBLKGK	MB1 BS		S	08LVG155	N/A	N/A	09/15/08
VBLKGN	MB1		S	08LVG157	N/A	N/A	09/16/08
VBLKGN	MB1 BS		S	08LVG157	N/A	N/A	09/16/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: WC-HANFORD RC-088
LVL #: 0809L085
SDG/SAF # K1323/RC-088

W.O. #: 60049-001-001-0001-00
Date Received: 09-10-2008

GC/MS VOLATILE

Fifteen (15) oil samples were collected on 09-03,05-2008.

The samples and their associated QC samples were analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8260B for TCL Volatile target compounds on 09-15,16-2008.

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 analyzed within required holding time.
2. Non-target compounds were detected in these samples.
3. All samples required a medium level dilution with additional dilutions from 4-fold to 40-fold due to sample matrix.
4. Five (5) of sixty six (66) surrogate recoveries were outside acceptance criteria. However, all reanalysis requirements were met with the analysis of the matrix spike and the reanalysis of sample J17H30 on 09-16-2008.
5. Two (2) of seventy (70) matrix spike recoveries were outside acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. The method blank was below the reporting limit for all target compounds.
8. All internal standard area and retention time criteria were met.

r:\group\data\2008\voa\tnu\0809-085cs2.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 39 pages.

LIONVILLE LABORATORY INC.

9. Manual integrations are performed according to SOP QA-125 to produce quality data with utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").

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

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

9/18/08
Date

GLOSSARY

DATA QUALIFIERS

U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.

J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

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

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

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

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

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

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

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

GLOSSARY

ABBREVIATIONS

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

TECHNICAL FLAGS FOR MANUAL INTEGRATION

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

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

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

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

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

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

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

Volatiles by GC/MS, HSL List

Report Date: 09/17/08 15:40

RFW Batch Number: 0809L085 Client: WC-HANFORD RC-088 K1323 Work Order: 60049001001 Page: 1a

	Cust ID:	J17H40		J17H41		J17H42		J17H43		J17H44		J17H23	
Sample Information	RFW#:	001		002		003		004		005		006	
	Matrix:	OIL		OIL		OIL		OIL		OIL		OIL	
	D.F.:	4.00		4.00		3.64		3.64		4.00		3.64	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
	Level:	MED		MED		MED		MED		MED		MED	
Surrogate Recovery	Toluene-d8	105	%	105	%	103	%	102	%	104	%	100	%
	Bromofluorobenzene	121	%	121	%	116	%	118	%	120	%	114	%
	1,2-Dichloroethane-d4	90	%	91	%	92	%	90	%	91	%	82	%
			fl		fl		fl		fl		fl		fl
Chloromethane		5000	U	5000	U	4500	U	4500	U	5000	U	4500	U
Bromomethane		5000	U	5000	U	4500	U	4500	U	5000	U	4500	U
Vinyl Chloride		5000	U	5000	U	4500	U	4500	U	5000	U	4500	U
Chloroethane		5000	U	5000	U	4500	U	4500	U	5000	U	4500	U
Methylene Chloride		2500	U	2500	U	2300	U	810	J	1300	J	2300	U
Acetone		4600	J	5000	U	4900		2900	J	5000	U	3000	J
Carbon Disulfide		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
1,1-Dichloroethene		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
1,1-Dichloroethane		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
1,2-Dichloroethene (total)		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
Chloroform		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
1,2-Dichloroethane		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
2-Butanone		5000	U	5000	U	4500	U	4500	U	5000	U	4500	U
1,1,1-Trichloroethane		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
Carbon Tetrachloride		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
Bromodichloromethane		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
1,2-Dichloropropane		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
cis-1,3-Dichloropropene		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
Trichloroethene		2500	U	2500	U	2300	U	2300	U	2500	U	1300	J
Dibromochloromethane		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
1,1,2-Trichloroethane		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
Benzene		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
Trans-1,3-Dichloropropene		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
Bromoform		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
4-Methyl-2-pentanone		5000	U	5000	U	4500	U	4500	U	540	J	4500	U
2-Hexanone		5000	U	5000	U	4500	U	4500	U	5000	U	4500	U
Tetrachloroethene		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
1,1,2,2-Tetrachloroethane		2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
Toluene		1700	J	1800	J	2300	U	3100		490	J	2900	

*= Outside of EPA CLP QC limits.

000000007

Cust ID:	J17H40		J17H41		J17H42		J17H43		J17H44		J17H23	
RFW#:	001		002		003		004		005		006	
Level:	MED		MED		MED		MED		MED		MED	
Chlorobenzene	2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
Ethylbenzene	2500	U	2500	U	2300	U	2300	U	2500	U	1200	J
Styrene	2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
Xylenes (total)	2500	U	810	J	2300	U	2800		910	J	7800	
cis-1,2-dichloroethene	2500	U	2500	U	2300	U	2300	U	2500	U	2300	U
trans-1,2-dichloroethene	2500	U	2500	U	2300	U	2300	U	2500	U	2300	U

*= Outside of EPA CLP QC limits.

000000008

Volatiles by GC/MS, HSL List

Report Date: 09/17/08 15:40

RFW Batch Number: 0809L085 Client: WC-HANFORD RC-088 K1323 Work Order: 60049001001 Page: 2a

	Cust ID:	J17H24	J17H25	J17H26	J17H27	J17H28	J17H28
Sample Information	RFW#:	007	008	009	010	011	011 MS
	Matrix:	OIL	OIL	OIL	OIL	OIL	OIL
	D.F.:	36.4	3.64	3.64	3.08	4.00	4.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	Level:	MED	MED	MED	MED	MED	MED
Surrogate Recovery	Toluene-d8	97 %	98 %	99 %	104 %	103 %	103 %
	Bromofluorobenzene	105 %	120 %	110 %	116 %	126 * %	131 * %
	1,2-Dichloroethane-d4	83 %	83 %	86 %	93 %	92 %	86 %
		fl	fl	fl	fl	fl	fl
Chloromethane		45000 U	4500 U	4500 U	3800 U	5000 U	78 %
Bromomethane		45000 U	4500 U	4500 U	3800 U	5000 U	63 %
Vinyl Chloride		45000 U	4500 U	4500 U	3800 U	5000 U	90 %
Chloroethane		45000 U	4500 U	4500 U	3800 U	5000 U	45 * %
Methylene Chloride		23000 U	2300 U	2300 U	1900 U	2500 U	98 %
Acetone		33000 J	4500 U	4500 U	3600 J	3800 J	76 %
Carbon Disulfide		23000 U	2300 U	2300 U	1900 U	2500 U	102 %
1,1-Dichloroethene		9500 J	2300 U	2300 U	1900 U	2500 U	110 %
1,1-Dichloroethane		23000 U	2300 U	2300 U	1900 U	2500 U	92 %
1,2-Dichloroethene (total)		23000 U	2300 U	2300 U	1900 U	2500 U	98 %
Chloroform		23000 U	2300 U	2300 U	1900 U	2500 U	92 %
1,2-Dichloroethane		23000 U	2300 U	2300 U	1900 U	2500 U	87 %
2-Butanone		45000 U	4500 U	4500 U	3800 U	1000 J	75 %
1,1,1-Trichloroethane		23000 U	2300 U	2300 U	1900 U	2500 U	96 %
Carbon Tetrachloride		23000 U	2300 U	2300 U	1900 U	2500 U	100 %
Bromodichloromethane		23000 U	2300 U	2300 U	1900 U	2500 U	93 %
1,2-Dichloropropane		23000 U	2300 U	2300 U	1900 U	2500 U	93 %
cis-1,3-Dichloropropene		23000 U	2300 U	2300 U	1900 U	2500 U	106 %
Trichloroethene		23000 U	2300 U	2300 U	1900 U	1400 J	104 %
Dibromochloromethane		23000 U	2300 U	2300 U	1900 U	2500 U	102 %
1,1,2-Trichloroethane		23000 U	2300 U	2300 U	1900 U	2500 U	96 %
Benzene		23000 U	2300 U	2300 U	1900 U	2500 U	97 %
Trans-1,3-Dichloropropene		23000 U	2300 U	2300 U	1900 U	2500 U	103 %
Bromoform		23000 U	2300 U	2300 U	1900 U	2500 U	91 %
4-Methyl-2-pentanone		45000 U	4500 U	4500 U	3800 U	11000	91 %
2-Hexanone		45000 U	4500 U	4500 U	3800 U	1100 J	90 %
Tetrachloroethene		23000 U	2300 U	2300 U	1900 U	2500 U	104 %
1,1,2,2-Tetrachloroethane		23000 U	2300 U	2300 U	1900 U	2500 U	100 %
Toluene		23000 U	510 J	2300 U	940 J	4000	106 %

*= Outside of EPA CLP QC limits.

000000009

RFW Batch Number: [illegible]

Cust ID:	J17H24		J17H25		J17H26		J17H27		J17H28		J17H28	
RFW#:	007		008		009		010		011		011 MS	
Level:	MED		MED		MED		MED		MED		MED	
Chlorobenzene	23000	U	2300	U	2300	U	1900	U	2500	U	96	%
Ethylbenzene	23000	U	2300	U	2300	U	1900	U	1600	J	109	%
Styrene	23000	U	2300	U	2300	U	1900	U	2500	U	113	%
Xylenes (total)	23000	U	2000	J	2300	U	1900	U	11000		105	%
cis-1,2-dichloroethene	23000	U	2300	U	2300	U	1900	U	2500	U	96	%
trans-1,2-dichloroethene	23000	U	2300	U	2300	U	1900	U	2500	U	101	%

*= Outside of EPA CLP QC limits.

000000010

Lionville Laboratory, Inc.
Volatiles by GC/MS, HSL List

Report Date: 09/17/08 15:40

RFW Batch Number: 0809L085 Client: WC-HANFORD RC-088 K1323 Work Order: 60049001001 Page: 3a

	Cust ID:	J17H28	J17H29	J17H30	J17H30	J17H31	J17H32
Sample Information	RFW#:	011 MSD	012	013	013	014	015
	Matrix:	OIL	OIL	OIL	OIL	OIL	OIL
	D.F.:	4.00	4.00	4.00	4.00	3.64	3.64
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	Level:	MED	MED	MED	MED	MED	MED
					REPREP		
Surrogate Recovery	Toluene-d8	104 %	104 %	105 %	104 %	105 %	104 %
	Bromofluorobenzene	125 * %	122 %	128 * %	129 * %	117 %	122 %
	1,2-Dichloroethane-d4	86 %	93 %	92 %	86 %	90 %	89 %
		fl	fl	fl	fl	fl	fl
Chloromethane		75 %	5000 U	5000 U	5000 U	4500 U	4500 U
Bromomethane		61 %	5000 U	5000 U	5000 U	4500 U	4500 U
Vinyl Chloride		85 %	5000 U	5000 U	5000 U	4500 U	4500 U
Chloroethane		45 * %	5000 U	5000 U	5000 U	4500 U	4500 U
Methylene Chloride		97 %	2500 U	2500 U	2500 U	2300 U	2300 U
Acetone		75 %	39000	5000 U	5000 U	1300 J	7600
Carbon Disulfide		100 %	2500 U	2500 U	2500 U	2300 U	2300 U
1,1-Dichloroethene		111 %	2500 U	2500 U	2500 U	2300 U	2300 U
1,1-Dichloroethane		93 %	2500 U	2500 U	2500 U	2300 U	2300 U
1,2-Dichloroethene (total)		99 %	2500 U	2500 U	2500 U	2300 U	2300 U
Chloroform		93 %	2500 U	2500 U	2500 U	2300 U	2300 U
1,2-Dichloroethane		88 %	2500 U	2500 U	2500 U	2300 U	2300 U
2-Butanone		77 %	3200 J	5000 U	5000 U	4500 U	4500 U
1,1,1-Trichloroethane		97 %	2500 U	2500 U	2500 U	2300 U	2300 U
Carbon Tetrachloride		102 %	2500 U	2500 U	2500 U	2300 U	2300 U
Bromodichloromethane		95 %	2500 U	2500 U	2500 U	2300 U	2300 U
1,2-Dichloropropane		97 %	2500 U	2500 U	2500 U	2300 U	2300 U
cis-1,3-Dichloropropene		108 %	2500 U	2500 U	2500 U	2300 U	2300 U
Trichloroethene		102 %	2500 U	2500 U	2500 U	2300 U	2300 U
Dibromochloromethane		108 %	2500 U	2500 U	2500 U	2300 U	2300 U
1,1,2-Trichloroethane		96 %	2500 U	2500 U	2500 U	2300 U	2300 U
Benzene		97 %	2500 U	2500 U	2500 U	2300 U	2300 U
Trans-1,3-Dichloropropene		104 %	2500 U	2500 U	2500 U	2300 U	2300 U
Bromoform		95 %	2500 U	2500 U	2500 U	2300 U	2300 U
4-Methyl-2-pentanone		91 %	5000 U	5000 U	5000 U	4500 U	4500 U
2-Hexanone		90 %	1300 J	5000 U	5000 U	4500 U	4500 U
Tetrachloroethene		105 %	2500 U	2500 U	2500 U	2300 U	2300 U
1,1,2,2-Tetrachloroethane		103 %	2500 U	2500 U	2500 U	2300 U	2300 U
Toluene		106 %	2000 J	5200	5200	2300 U	2900

*= Outside of EPA CLP QC limits.

000000011

Cust ID:	J17H28		J17H29		J17H30		J17H30		J17H31		J17H32	
RFW#:	011 MSD		012		013		013		014		015	
Level:	MED		MED		MED		MED REPREP		MED		MED	
Chlorobenzene	97	%	2500	U	2500	U	2500	U	2300	U	2300	U
Ethylbenzene	109	%	510	J	620	J	710	J	2300	U	240	J
Styrene	113	%	2500	U	2500	U	2500	U	2300	U	2300	U
Xylenes (total)	106	%	4200		4400		4600		910	J	1200	J
cis-1,2-dichloroethene	99	%	2500	U	2500	U	2500	U	2300	U	2300	U
trans-1,2-dichloroethene	99	%	2500	U	2500	U	2500	U	2300	U	2300	U

*= Outside of EPA CLP QC limits.

	Cust ID:	VBLKGK		VBLKGK BS		VBLKGN		VBLKGN BS	
Sample Information	RFW#:	08LVG155-MB1		08LVG155-MB1		08LVG157-MB1		08LVG157-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	D.F.:	4.00		4.00		4.00		4.00	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg	
	Level:	MED		MED		MED		MED	
Surrogate Recovery	Toluene-d8	108	%	110	%	100	%	106	%
	Bromofluorobenzene	116	%	114	%	105	%	116	%
	1,2-Dichloroethane-d4	93	%	91	%	87	%	88	%
Chloromethane		5000	U	93	%	5000	U	90	%
Bromomethane		5000	U	78	%	5000	U	75	%
Vinyl Chloride		5000	U	105	%	5000	U	99	%
Chloroethane		5000	U	69	%	5000	U	56	%
Methylene Chloride		2500	U	100	%	2500	U	103	%
Acetone		5000	U	114	%	5000	U	116	%
Carbon Disulfide		2500	U	112	%	2500	U	111	%
1,1-Dichloroethene		2500	U	120	%	2500	U	120	%
1,1-Dichloroethane		2500	U	92	%	2500	U	94	%
1,2-Dichloroethene (total)		2500	U	100	%	2500	U	102	%
Chloroform		2500	U	96	%	2500	U	96	%
1,2-Dichloroethane		2500	U	87	%	2500	U	87	%
2-Butanone		5000	U	73	%	5000	U	80	%
1,1,1-Trichloroethane		2500	U	96	%	2500	U	98	%
Carbon Tetrachloride		2500	U	102	%	2500	U	103	%
Bromodichloromethane		2500	U	95	%	2500	U	95	%
1,2-Dichloropropane		2500	U	94	%	2500	U	92	%
cis-1,3-Dichloropropene		2500	U	108	%	2500	U	108	%
Trichloroethene		2500	U	104	%	2500	U	103	%
Dibromochloromethane		2500	U	109	%	2500	U	110	%
1,1,2-Trichloroethane		2500	U	99	%	2500	U	99	%
Benzene		2500	U	96	%	2500	U	98	%
Trans-1,3-Dichloropropene		2500	U	107	%	2500	U	108	%
Bromoform		2500	U	100	%	2500	U	105	%
4-Methyl-2-pentanone		5000	U	84	%	5000	U	94	%
2-Hexanone		5000	U	87	%	5000	U	109	%
Tetrachloroethene		2500	U	105	%	2500	U	106	%
1,1,2,2-Tetrachloroethane		2500	U	94	%	2500	U	93	%
Toluene		2500	U	107	%	2500	U	108	%

*= Outside of EPA CLP QC limits.

000000013

Cust ID:	VBLKGK		VBLKGK BS		VBLKGN		VBLKGN BS	
RFW#:	08LVG155-MB1		08LVG155-MB1		08LVG157-MB1		08LVG157-MB1	
Level:	MED		MED		MED		MED	
Chlorobenzene	2500	U	99	%	2500	U	100	%
Ethylbenzene	2500	U	111	%	2500	U	110	%
Styrene	2500	U	116	%	2500	U	118	%
Xylenes (total)	2500	U	107	%	2500	U	109	%
cis-1,2-dichloroethene	2500	U	97	%	2500	U	100	%
trans-1,2-dichloroethene	2500	U	103	%	2500	U	104	%

*= Outside of EPA CLP QC limits.

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H40

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-001

Sample wt/vol: 1.00 (g/mL) G Lab File ID: g091513

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/15/08

Column: (pack/cap) CAP Dilution Factor: 4.00

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	25.210	20000	J
2.	METHYLNAPHTHALENE	25.587	10000	J
3.	DIMETHYLNAPHTHALENE	27.479	40000	J
4.	DIMETHYLNAPHTHALENE	27.893	40000	J
5.	DIMETHYLNAPHTHALENE	28.020	30000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H41

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-002

Sample wt/vol: 1.00 (g/mL) G Lab File ID: q091514

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/15/08

Column: (pack/cap) CAP Dilution Factor: 4.00

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.196	20000	J
2.	UNKNOWN	25.210	30000	J
3.	DIMETHYLNAPHTHALENE	27.473	40000	J
4.	DIMETHYLNAPHTHALENE	27.893	30000	J
5.	DIMETHYLNAPHTHALENE	28.020	30000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H42

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-003

Sample wt/vol: 1.10 (g/mL) G Lab File ID: q091515

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/15/08

Column: (pack/cap) CAP Dilution Factor: 3.64

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	25.204	10000	J
2.	DIMETHYLNAPHTHALENE	27.473	30000	J
3.	DIMETHYLNAPHTHALENE	27.899	30000	J
4.	DIMETHYLNAPHTHALENE	28.014	20000	J
5.	DIMETHYLNAPHTHALENE	28.580	20000	J

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1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H43

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-004

Sample wt/vol: 1.10 (g/mL) G Lab File ID: q091516

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/15/08

Column: (pack/cap) CAP Dilution Factor: 3.64

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	TERPENE	19.205	20000	J
2.	TERPENE	20.106	10000	J
3.	UNKNOWN	23.196	10000	J
4.	UNKNOWN	25.204	30000	J
5.	DIMETHYLNAPHTHALENE	27.893	30000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H44

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-005

Sample wt/vol: 1.00 (g/mL) G Lab File ID: g091614

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/16/08

Column: (pack/cap) CAP Dilution Factor: 4.00

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	25.204	20000	J
2.	UNKNOWN	27.114	10000	J
3.	DIMETHYLNAPHTHALENE	27.473	30000	J
4.	DIMETHYLNAPHTHALENE	27.893	30000	J
5.	DIMETHYLNAPHTHALENE	28.014	30000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H23

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-006

Sample wt/vol: 1.10 (g/mL) G Lab File ID: q091607

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/16/08

Column: (pack/cap) CAP Dilution Factor: 3.64

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	TERPENE	19.205	10000	J
2.	UNKNOWN	23.196	10000	J
3.	UNKNOWN	25.204	20000	J
4.	DIMETHYLNAPHTHALENE	27.467	20000	J
5.	DIMETHYLNAPHTHALENE	27.893	20000	J

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1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H24

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-007

Sample wt/vol: 1.10 (g/mL) G Lab File ID: g091608

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/16/08

Column: (pack/cap) CAP Dilution Factor: 36.4

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 76131	ETHANE, 1,1,2-TRICHLORO-1,2,	6.789	2000000	NJ
2.	UNKNOWN	25.21	100000	J
3.	DIMETHYLNAPHTHALENE	27.473	200000	J
4.	DIMETHYLNAPHTHALENE	27.893	200000	J
5.	DIMETHYLNAPHTHALENE	28.014	200000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H25

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-008

Sample wt/vol: 1.10 (g/mL) G Lab File ID: g091609

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/16/08

Column: (pack/cap) CAP Dilution Factor: 3.64

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.196	10000	J
2.	UNKNOWN	25.204	30000	J
3.	DIMETHYLNAPHTHALENE	27.473	30000	J
4.	DIMETHYLNAPHTHALENE	27.893	30000	J
5.	DIMETHYLNAPHTHALENE	28.014	30000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H26

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-009

Sample wt/vol: 1.10 (g/mL) G Lab File ID: g091610

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/16/08

Column: (pack/cap) CAP Dilution Factor: 3.64

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	25.210	5000	J
2.	DIMETHYLNAPHTHALENE	27.473	20000	J
3.	DIMETHYLNAPHTHALENE	27.893	20000	J
4.	DIMETHYLNAPHTHALENE	28.014	20000	J
5.	DIMETHYLNAPHTHALENE	28.574	10000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H27

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-010

Sample wt/vol: 1.30 (g/mL) G Lab File ID: g091507

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/15/08

Column: (pack/cap) CAP Dilution Factor: 3.08

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.196	4000	J
2.	UNKNOWN	25.204	10000	J
3.	DIMETHYLNAPHTHALENE	27.473	9000	J
4.	DIMETHYLNAPHTHALENE	27.893	9000	J
5.	DIMETHYLNAPHTHALENE	28.014	9000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H28

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-011

Sample wt/vol: 1.00 (g/mL) G Lab File ID: g091508

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/15/08

Column: (pack/cap) CAP Dilution Factor: 4.00

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	TERPENE	19.205	10000	J
2.	UNKNOWN	23.196	10000	J
3.	UNKNOWN	25.204	30000	J
4.	DIMETHYLNAPHTHALENE	27.479	20000	J
5.	DIMETHYLNAPHTHALENE	27.893	30000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H29

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-012

Sample wt/vol: 1.00 (g/mL) G Lab File ID: g091509

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/15/08

Column: (pack/cap) CAP Dilution Factor: 4.00

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.196	9000	J
2.	UNKNOWN	25.210	20000	J
3.	DIMETHYLNAPHTHALENE	27.479	30000	J
4.	DIMETHYLNAPHTHALENE	27.893	30000	J
5.	DIMETHYLNAPHTHALENE	28.014	30000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H30

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-013

Sample wt/vol: 1.00 (g/mL) G Lab File ID: g091510

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/15/08

Column: (pack/cap) CAP Dilution Factor: 4.00

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	TERPENE	19.205	30000	J
2.	TERPENE	20.106	20000	J
3.	UNKNOWN	23.196	20000	J
4.	UNKNOWN	25.210	30000	J
5.	DIMETHYLNAPHTHALENE	27.893	30000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H30RE

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-013

Sample wt/vol: 1.00 (g/mL) G Lab File ID: g091611

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/16/08

Column: (pack/cap) CAP Dilution Factor: 4.00

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	TERPENE	19.205	30000	J
2.	TERPENE	20.106	20000	J
3.	UNKNOWN	23.196	20000	J
4.	UNKNOWN	25.204	20000	J
5.	DIMETHYLNAPHTHALENE	27.899	20000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H31

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-014

Sample wt/vol: 1.10 (g/mL) G Lab File ID: g091511

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/15/08

Column: (pack/cap) CAP Dilution Factor: 3.64

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.196	7000	J
2.	UNKNOWN	25.204	20000	J
3.	DIMETHYLNAPHTHALENE	27.473	30000	J
4.	DIMETHYLNAPHTHALENE	27.893	30000	J
5.	DIMETHYLNAPHTHALENE	28.014	20000	J

1E

VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

J17H32

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) OIL Lab Sample ID: 0809L085-015

Sample wt/vol: 1.10 (g/mL) G Lab File ID: g091512

Level: (low/med) MED Date Received: 09/10/08

% Moisture: not dec. 0 Date Analyzed: 09/15/08

Column: (pack/cap) CAP Dilution Factor: 3.64

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	23.196	10000	J
2.	UNKNOWN	25.21	30000	J
3.	DIMETHYLNAPHTHALENE	27.479	40000	J
4.	DIMETHYLNAPHTHALENE	27.893	30000	J
5.	DIMETHYLNAPHTHALENE	28.014	30000	J

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VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKGK

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) SOIL Lab Sample ID: 08LVG155-MB1

Sample wt/vol: 1.00 (g/mL) G Lab File ID: g091505

Level: (low/med) MED Date Received: 09/15/08

% Moisture: not dec. 0 Date Analyzed: 09/15/08

Column: (pack/cap) CAP Dilution Factor: 4.00

Number TICs found: 0

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

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

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VOLATILE ORGANICS ANALYSIS SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKGN

Lab Name: Lionville Labs, Inc. Contract: 60049001001

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

Matrix: (soil/water) SOIL Lab Sample ID: 08LVG157-MB1

Sample wt/vol: 1.00 (g/mL) G Lab File ID: q091606

Level: (low/med) MED Date Received: 09/15/08

% Moisture: not dec. 0 Date Analyzed: 09/16/08

Column: (pack/cap) CAP Dilution Factor: 4.00

Number TICs found: 0

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

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

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Lionville Laboratory Use Only

0809L085

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI Lionville Laboratory Inc.

Client: WC Hafford KC-088

Est. Final Proj. Sampling Date:

Project#: 60049-001-001-0001-00

Project Contact/Phone#:

Lionville Laboratory Project Manager: O. Johnson

PC: SW846 Del: STD TAT: 7 days

Date Rec'd: 9-10-08 Date Due: 9-17-08

	A	B
Refrigerator #	6	3
#/Type Container: Liquid	1G	1G
#/Type Container: Solid		
Volume	40	250
Preservatives	—	—

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA (Lionville Laboratory Use Only: 06294)	BNA (06254)	Pest/PCB (OPCB)	Herb				INORG ICP Metal (Met①)	Hg	CN	(TFGN)				
001	J17H40			OIL	9-5-08	0930	X	X	X					X			X				
002	41					1005	X	X	X					X			X				
003	42					1250	X	X	X					X			X				
004	43					1305	X	X	X					X			X				
005	44					1320	X	X	X					X			X				
006	23				9-3-08	1000	X	X	X					X			X				
007	24					1015	X	X	X					X			X				
008	25					1240	X	X	X					X			X				
009	26					1345	X	X	X					X			X				
010	27					1405	X	X	X					X			X				

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

Special Instructions: Run matrix QC

met① = HSL + Sn, Zr

Special Instructions:

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

Relinquished by	Received by	Date	Time
[signature]	[signature]	9/10/08	0935

Relinquished by	Received by	Date	Time

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

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Lionville Laboratory Use Only

08096085

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

Client: W.C. Hanford

Est. Final Proj. Sampling Date: 9/9/98

Project#:

Project Contact/Phone#: [illegible]

Lionville Laboratory Project Manager: [illegible]

C: Del: TAT:

Date Rec'd: Date Due:

	A	B
Refrigerator #	6	3
#/Type Container Liquid	1G	1G
#/Type Container Solid		
Volume	40	250
Preservatives	—	—

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA (Lionville Laboratory Use Only) 06244	BNA 06254	Pest/PCB OPCB	Herb				Metal Metal	CN	Cyanide TIGN				
011	T17H28			oil	9-3-98	1440	X	X	X					X		X				
012	29					1450	X	X	X					X		X				
013	30					1500	X	X	X					X		X				
014	31					1530	X	X	X					X		X				
015	32					1540	X	X	X					X		X				
016	35 HN9-1008																			
017	34																			

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

Special Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
[signature]	[signature]	9/10/98	0932

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

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Washington Closure Hanford | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | **RC-088-075** | Page 1 of 1

Collector: S. Deeter	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: ~~15~~ 7 Days JSD 9/5/08		
Project Designation: 618-7 Burial Ground - Other	Sampling Location: 618-7 Burial Ground (drums)		SAF No.: RC-088
Ice Chest No.: EKC-99-056	Field Logbook No.: EL-1395-13	COA: RG61878500	Method of Shipment: FedEx
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.		Bill of Lading/Air Bill No.: see OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None					
Type of Container	aG	aG	aG	aG	aG	P					
No. of Container(s)	1	1	0	0	0	1					
Volume	40mL	250mL	125mL	125mL	60mL	500mL					
SAMPLE ANALYSIS	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. 9/5/08					

Sample No.	Matrix *	Sample Date	Sample Time									RCF #	Drum #
J17H40	OTHER	9/5/08	0950	X	X	X	X	X	X			J17H70	7039
J17H41	OTHER	9/5/08	1005	X	X	X	X	X	X			J17H71	7042
J17H42	OTHER	9/5/08	1250	X	X	X	X	X				J17H72	7038
J17H43	OTHER	9/5/08	1305	X	X	X	X	X				J17H73	7161
J17H44	OTHER	9/5/08	1320	X	X	X	X	X				J17H74	7037

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
SDEETER	9-5-08 1630	JRDeBruin JRDeBruin	9/5/08 1630
JRDeBruin JRDeBruin	9/5/08 1700	1060 1B	9/5/08 1700
1060/1B	0830 SEP 0 9 2008	MSHankook	SEP 0 9 2008 0830
MSHankook	SEP 0 9 2008 0830	FedEx	
FedEx	9-10-08 0935		9-10-08 0935
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 – Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

Matrix *

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

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

WCH-EE-011

KMW

0000000035

Washington Closure Hanford | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | RC-088-071

Collector: S. Deeter	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: ~~15~~ Days 7 RTC 9/3/08		
Project Designation: 618-7 Burial Ground - Other	Sampling Location: 618-7 Burial Ground (drums)		SAF No.: RC-088
Ice Chest No.: AFS-06-003	Field Logbook No.: EL-1395-13	COA: RG61878500	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080346		Bill of Lading/Air Bill No.: See aspC

POSSIBLE SAMPLE ~~HAZARDS~~/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C				
Type of Container	aG	aG	aG	aG	P	aG				
No. of Container(s)	1	0	0	0	1	8.1				
Volume	~~250mL~~ 500 RTC 2-500	125mL	125mL	60mL	500mL	40mL				
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. RTC 9/3/08	VOA 8270A				PIN #

Sample No.	Matrix *	Sample Date	Sample Time										
~~J17H20~~	~~OTHER~~												
~~J17H21~~	~~OTHER~~												
~~J17H22~~	~~OTHER~~												
J17H23	OTHER	9/3/08	1000	X	X	X	X		X				7033
J17H24	OTHER	9/3/08	1015	X	X	X	X		X				7007

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
S. DEETER	1800 9-3-08	RT Coffman / RT Coffman	1700 9/3/08
RT Coffman / RT Coffman	1900 9/3/08	Receipt #1B, 1060	1900 9/3/08
1060/1B	0815 SEP 08 2008	MStankovich	0815 SEP 08 2008
MStankovich	0915 SEP 08 2008	Fed Ex	
Fed Ex	9-10-08 0935		9-10-08 0935
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

Matrix *

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

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

WCH-EE-011

000000036

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-088-072 | Page 1 of 1

Collector: S. Deeter	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: ~~15~~ 7 Days		
Project Designation: 618-7 Burial Ground - Other	Sampling Location: 618-7 Burial Ground (drums)		SAF No.: RC-088
Ice Chest No.: MFS-06-003	Field Logbook No.: EL-1395-13	COA: RG61878500	Method of Shipment: FedEx RTC 9/3/08
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080346		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C					
Type of Container	aG	aG	aG	aG	P	2G					
No. of Container(s)	1	0	0	0	1	1					
Volume	250mL	125mL	125mL	60mL	500mL	40mL					
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. RTC 9/3/08	VOA 8270A					PIN #
Sample No.	Matrix *	Sample Date	Sample Time								
J17H25	OTHER	9/3/08	1240	X	X	X	X		X		6960
J17H26	OTHER		1345	X	X	X	X		X		7144
J17H27	OTHER		1405	X	X	X	X		X		7140
J17H28	OTHER		1440	X	X	X	X		X		7034
J17H29	OTHER	9/3/08	1450	X	X	X	X		X		7035

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: S DEETER	1700 9-3-08	RT COFFMAN / RT Coffman	1700 9/3/08
Relinquished By/Removed From: RT COFFMAN / RT Coffman	1900 9/3/08	Received By/Stored In: RECEIP 1B, 1060,	1900 9/3/08
Relinquished By/Removed From: 1060/10	0915 SEP 0 8 2008	Received By/Stored In: MSTankovich	0915 SEP 0 8 2008
Relinquished By/Removed From: MSTankovich	0915 SEP 0 8 2008	Received By/Stored In: FedEx	
Relinquished By/Removed From: FedEx	9-10-08 0935	Received By/Stored In:	9-3-08 0935
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 – Total Sr

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

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

WCH-EE-011

000000037

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-088-073 | Page 1 of 1

Collector: S. Deeter	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: 15 Days		
Project Designation: 618-7 Burial Ground - Other	Sampling Location: 618-7 Burial Ground (drums)		SAF No.: RC-088
Ice Chest No.: HFS-06-003	Field Logbook No.: EL-1395-13	COA: RG61878500	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES/LIONVILLE	Offsite Property No.: A080346		Bill of Lading/Air Bill No.: See ospc

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4°C					
Type of Container	aG	aG	aG	aG	P	aG					
No. of Container(s)	1	0	0	0	1	1					
Volume	250mL	125mL	125mL	60mL	500mL	40mL					
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. RC 9/3/08	VOA 8270A					PIN #
Sample No. / Matrix * / Sample Date / Sample Time											
J17H30 / OTHER / 9/3/08 / 1500	X	X	X	X		X					7045
J17H31 / OTHER / 9/3/08 / 1530	X	X	X	X		X					7142
J17H32 / OTHER / 9/3/08 / 1540	X	X	X	X		X					7191
J17H33 / OTHER											
J17H34 / OTHER											

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1700	Received By/Stored In	Date/Time 1700
SEE BELOW	9-3-08	RT Coffman / RT Coffman	9/3/08
Relinquished By/Removed From	Date/Time 1900	Received By/Stored In	Date/Time 1900
RT Coffman / RT Coffman	9/3/08	REFER #1B, 1060	9/3/08
Relinquished By/Removed From	Date/Time 0915	Received By/Stored In	Date/Time 0915
1060/1B	SEP 0 8 2008	MSlankoud	SEP 0 8 2008
Relinquished By/Removed From	Date/Time 0915	Received By/Stored In	Date/Time
cont MSlankoud	SEP 0 8 2008	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
FED EX	9-10-08 0935		9-10-08 0935
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 – Total Sr

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DL=Drum Liquids
T=Tissue
Wl=Wipe
L=Liquid
V=Vegetation
X=Other

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

WCH-EE-011

000000038

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: W.C. Hanford **Date:** 9-10-08

Project/SAF/SOW/Release #: RC-088

LvLI Batch #: 0809C085 **Sample Custodian:** [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7900 8019 1057 7905 7304 2908
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 2-5 2-2	°C	Cooler # ERC-99-056 AFS-06-003
How was the temperature taken?	☑ IR	☑ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☑ Yes	☐ No	☐ N/A
14. QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A
15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____

LvLI

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

RECEIVED OCT 2008

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17H40	001	OI	08LE0434	09/05/08	09/12/08	09/16/08
J17H40	001 MS	OI	08LE0434	09/05/08	09/12/08	09/16/08
J17H40	001 MSD	OI	08LE0434	09/05/08	09/12/08	09/16/08
J17H41	002	OI	08LE0434	09/05/08	09/12/08	09/16/08
J17H42	003	OI	08LE0434	09/05/08	09/12/08	09/15/08
J17H43	004	OI	08LE0434	09/05/08	09/12/08	09/16/08
J17H44	005	OI	08LE0434	09/05/08	09/12/08	09/15/08
J17H23	006	OI	08LE0434	09/03/08	09/12/08	09/16/08
J17H24	007	OI	08LE0434	09/03/08	09/12/08	09/15/08
J17H25	008	OI	08LE0434	09/03/08	09/12/08	09/16/08
J17H26	009	OI	08LE0434	09/03/08	09/12/08	09/16/08
J17H27	010	OI	08LE0434	09/03/08	09/12/08	09/16/08
J17H28	011	OI	08LE0434	09/03/08	09/12/08	09/16/08
J17H29	012	OI	08LE0434	09/03/08	09/12/08	09/16/08
J17H30	013	OI	08LE0434	09/03/08	09/12/08	09/16/08
J17H31	014	OI	08LE0434	09/03/08	09/12/08	09/16/08
J17H32	015	OI	08LE0434	09/03/08	09/12/08	09/16/08

LAB QC:

SBLKXQ	MB1	OI	08LE0434	N/A	09/12/08	09/15/08
SBLKXQ	MB1 BS	OI	08LE0434	N/A	09/12/08	09/15/08

Case Narrative

Client: WC-HANFORD RC-088 K1323
LVL #: 0809L085

W.O. #: 60049-001-001-0001-00
Date Received: 09-10-2008

SEMIVOLATILE

Fifteen (15) oil samples were collected on 09-03,05-2008.

The samples and associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3580A (Waste Dilution Protocol, 1g into 10mL DCM and/or 1g into 20 mL DCM) on 09-12-2008 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 09-15,16-2008.

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

1. The samples were extracted and analyzed within the recommended holding time.

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

3. All samples had a 10-fold dilution at the extraction level and an adjusted final volume of 2.1 ml resulting in a 21-fold dilution factor. Due to the oily matrix and high concentration of chromatographic anomalies the following samples required additional dilution at the instrument: J17H40, J17H40 MS, J17H40 MSD, J17H41, J17H42, J17H24, J17H25, J17H28, J17H29, J17H30 and J17H32 at 5-fold; and J17H43 at 10-fold. Reporting limits have been adjusted to reflect the necessary dilutions.

4. All obtainable surrogate recoveries were within acceptance criteria.

5. Four (4) of one hundred twenty-eight (128) matrix spike recoveries were outside acceptance criteria. Several matrix spike recoveries were unobtainable due to dilution required for analysis. A copy of the Sample Discrepancy Report (SDR# 08MS207) has been enclosed.

6. All blank spike recoveries were within acceptance criteria.

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

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

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

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

11. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").

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

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

Iain Daniels
Laboratory Manager
Lionville Laboratory

10/9/08
Date

LVLI
LIONVILLE LABORATORY INC.

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 08MS207

Initiator: Sharon Saylor
Date: 9-19-08
Client: WC Hanford RL0880 KI1323

Batch: 08I09L085
Samples: ms, msd
Method: SW846/MCAWW/CLP/

Parameter: 8270
Matrix: Oil
Prep Batch: 08I60434

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)

poor low spike recoveries in the ms + msd but BS is ok (4,6dinitro-2methylphenol, 2,4dinitrophenol, pentachlorophenol, 4nitrophenol)

2. Known or Probable Causes(s) possible matrix effect! hydrocarbon contamination; large unresolved chromatographic peak btn 17-20 minutes. Samples required a 5 fold instrument dilution. Acidic phenols are subject to erratic chromatographic behavior especially if the GC systems contaminated with high boiling material. All surrogates within QC acceptance criteria.

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

Other Description: narrate

4. Project Manager Instructions...signature/date: 9/19/08
✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
__ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: 9/19/08
__ Verified re-[log][leach][extract][digest][analysis] (circle)
✓ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

Other Explanation:

When Final Action has been recorded, forward original to QA for diposition.

Route
__ Lab Manager: Daniels
(✓) Project Mgr (circle): Johnson / Stone
__ Sample Prep (circle): Ford
__ Log-in: King

Route
__ Metals: Welsh / _____
__ Inorganic: Perrone / _____
__ GC/LC: Carey / _____
__ MS VOA: Rubino / _____
(✓) MS BNA: Carden / _____
__ Other: _____

GLOSSARY

DATA QUALIFIERS

U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.

J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.

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

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

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

I = Interference.

NQ = Result qualitatively confirmed but not able to quantify.

A = Indicates that a TIC is a suspected aldol-condensation product.

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

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

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

GLOSSARY

ABBREVIATIONS

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

TECHNICAL FLAGS FOR MANUAL INTEGRATION

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

MP	-	Missed Peak: manually added peak not found by automatic quan program.
PA	-	Peak Assignment: quan report was changed to reflect correct peak assignment.
RI	-	Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.
SP	-	Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.
CB	-	Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.
PI	-	Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 09/25/08 10:47

RFW Batch Number: **0809L085** Client: **WC-HANFORD RC-088 K1323** Work Order: 60049001001 Page: 1a

	Cust ID:	J17H40	J17H40	J17H40	J17H41	J17H42	J17H43
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	OIL	OIL	OIL	OIL	OIL	OIL
	D.F.:	105	105	105	105	105	210
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	75 %	101 %	95 %	76 %	93 %	96 %
	2-Fluorobiphenyl	83 %	111 %	103 %	109 %	96 %	88 %
	Terphenyl-d14	111 %	106 %	119 %	97 %	93 %	105 %
	Phenol-d5	75 %	95 %	98 %	83 %	99 %	86 %
	2-Fluorophenol	84 %	97 %	107 %	89 %	91 %	69 %
	2,4,6-Tribromophenol	38 %	81 %	82 %	43 %	67 %	61 %

Phenol	1000000 U	101 %	111 %	1000000 U	1000000 U	2100000 U
bis(2-Chloroethyl)ether	1000000 U	109 %	109 %	1000000 U	1000000 U	2100000 U
2-Chlorophenol	1000000 U	79 %	94 %	1000000 U	1000000 U	2100000 U
1,3-Dichlorobenzene	1000000 U	97 %	107 %	1000000 U	1000000 U	2100000 U
1,4-Dichlorobenzene	1000000 U	95 %	89 %	1000000 U	1000000 U	2100000 U
1,2-Dichlorobenzene	1000000 U	90 %	102 %	1000000 U	1000000 U	2100000 U
2-Methylphenol	1000000 U	104 %	104 %	1000000 U	1000000 U	2100000 U
2,2'-oxybis(1-Chloropropane)	1000000 U	115 %	124 * %	1000000 U	1000000 U	2100000 U
3/4 Methylphenol	1000000 U	88 %	100 %	1000000 U	1000000 U	2100000 U
N-Nitroso-di-n-propylamine	1000000 U	118 %	109 %	1000000 U	1000000 U	2100000 U
Hexachloroethane	1000000 U	93 %	102 %	1000000 U	1000000 U	2100000 U
Nitrobenzene	1000000 U	87 %	83 %	1000000 U	1000000 U	2100000 U
Isophorone	1000000 U	87 %	90 %	1000000 U	1000000 U	2100000 U
2-Nitrophenol	1000000 U	65 %	64 %	1000000 U	1000000 U	2100000 U
2,4-Dimethylphenol	1000000 U	98 %	84 %	1000000 U	1000000 U	2100000 U
bis(2-Chloroethoxy)methane	1000000 U	101 %	107 %	1000000 U	1000000 U	2100000 U
2,4-Dichlorophenol	1000000 U	77 %	84 %	1000000 U	1000000 U	2100000 U
1,2,4-Trichlorobenzene	1000000 U	81 %	96 %	1000000 U	1000000 U	2100000 U
Naphthalene	1000000 U	94 %	90 %	1000000 U	1000000 U	2100000 U
4-Chloroaniline	1000000 U	93 %	93 %	1000000 U	1000000 U	2100000 U
Hexachlorobutadiene	1000000 U	81 %	84 %	1000000 U	1000000 U	2100000 U
4-Chloro-3-methylphenol	1000000 U	102 %	89 %	1000000 U	1000000 U	2100000 U
2-Methylnaphthalene	1000000 U	98 %	99 %	1000000 U	1000000 U	2100000 U
Hexachlorocyclopentadiene	1000000 U	50 %	42 %	1000000 U	1000000 U	2100000 U
2,4,6-Trichlorophenol	1000000 U	62 %	62 %	1000000 U	1000000 U	2100000 U
2,4,5-Trichlorophenol	2600000 U	115 %	120 %	2600000 U	2600000 U	5200000 U

*= Outside of EPA CLP QC limits.

000000008

Cust ID:	J17H40	J17H40	J17H40	J17H41	J17H42	J17H43
RFW#:	001	001 MS	001 MSD	002	003	004
2-Chloronaphthalene	1000000 U	98 %	97 %	1000000 U	1000000 U	2100000 U
2-Nitroaniline	2600000 U	79 %	91 %	2600000 U	2600000 U	5200000 U
Dimethylphthalate	1000000 U	110 %	109 %	1000000 U	1000000 U	2100000 U
Acenaphthylene	1000000 U	100 %	103 %	1000000 U	1000000 U	2100000 U
2,6-Dinitrotoluene	1000000 U	86 %	97 %	1000000 U	1000000 U	2100000 U
3-Nitroaniline	2600000 U	93 %	91 %	2600000 U	2600000 U	5200000 U
Acenaphthene	1000000 U	98 %	108 %	1000000 U	1000000 U	2100000 U
2,4-Dinitrophenol	2600000 U	D %	D %	2600000 U	2600000 U	5200000 U
4-Nitrophenol	2600000 U	44 %	20 * %	2600000 U	2600000 U	5200000 U
Dibenzofuran	1000000 U	104 %	101 %	1000000 U	1000000 U	2100000 U
2,4-Dinitrotoluene	1000000 U	100 %	87 %	1000000 U	1000000 U	2100000 U
Diethylphthalate	1000000 U	105 %	110 %	1000000 U	1000000 U	2100000 U
4-Chlorophenyl-phenylether	1000000 U	111 %	112 %	1000000 U	1000000 U	2100000 U
Fluorene	100000 J	103 %	90 %	120000 J	85000 J	140000 J
4-Nitroaniline	2600000 U	84 %	80 %	2600000 U	2600000 U	5200000 U
4,6-Dinitro-2-methylphenol	2600000 U	11 * %	D %	2600000 U	2600000 U	5200000 U
N-Nitrosodiphenylamine (1)	1000000 U	120 %	122 %	1000000 U	1000000 U	2100000 U
4-Bromophenyl-phenylether	1000000 U	98 %	110 %	1000000 U	1000000 U	2100000 U
Hexachlorobenzene	1000000 U	91 %	104 %	1000000 U	1000000 U	2100000 U
Pentachlorophenol	2600000 U	D %	D %	2600000 U	2600000 U	5200000 U
Phenanthrene	240000 J	94 %	107 %	200000 J	99000 J	270000 J
Anthracene	1000000 U	103 %	122 %	1000000 U	1000000 U	2100000 U
Carbazole	1000000 U	102 %	114 %	1000000 U	1000000 U	2100000 U
Di-n-butylphthalate	1000000 U	121 %	127 %	1000000 U	1000000 U	2100000 U
Fluoranthene	1000000 U	113 %	110 %	63000 J	1000000 U	2100000 U
Pyrene	1000000 U	110 %	113 %	59000 J	1000000 U	2100000 U
Butylbenzylphthalate	1000000 U	148 %	184 * %	120000 J	1000000 U	2100000 U
3,3'-Dichlorobenzidine	1000000 U	124 %	133 %	1000000 U	1000000 U	2100000 U
Benzo(a)anthracene	1000000 U	98 %	106 %	1000000 U	1000000 U	2100000 U
Chrysene	1000000 U	105 %	107 %	1000000 U	1000000 U	2100000 U
bis(2-Ethylhexyl)phthalate	1000000 U	129 %	124 %	1000000 U	1000000 U	2100000 U
Di-n-octyl phthalate	1000000 U	98 %	96 %	1000000 U	1000000 U	2100000 U
Benzo(b)fluoranthene	1000000 U	84 %	94 %	1000000 U	1000000 U	2100000 U
Benzo(k)fluoranthene	1000000 U	84 %	91 %	1000000 U	1000000 U	2100000 U
Benzo(a)pyrene	1000000 U	85 %	95 %	1000000 U	1000000 U	2100000 U
Indeno(1,2,3-cd)pyrene	1000000 U	89 %	99 %	1000000 U	1000000 U	2100000 U
Dibenz(a,h)anthracene	1000000 U	84 %	95 %	1000000 U	1000000 U	2100000 U
Benzo(g,h,i)perylene	1000000 U	89 %	90 %	1000000 U	1000000 U	2100000 U

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

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 09/25/08 10:47

RFW Batch Number: 0809L085 Client: WC-HANFORD RC-088 K1323 Work Order: 60049001001 Page: 2a

	Cust ID:	J17H44	J17H23	J17H24	J17H25	J17H26	J17H27
Sample Information	RFW#:	005	006	007	008	009	010
	Matrix:	OIL	OIL	OIL	OIL	OIL	OIL
	D.F.:	105	21.0	105	105	21.0	21.0
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	77 %	87 %	88 %	101 %	88 %	84 %
	2-Fluorobiphenyl	94 %	81 %	83 %	92 %	85 %	89 %
	Terphenyl-d14	90 %	87 %	80 %	92 %	82 %	84 %
	Phenol-d5	93 %	81 %	89 %	98 %	82 %	76 %
	2-Fluorophenol	92 %	90 %	80 %	79 %	86 %	87 %
	2,4,6-Tribromophenol	79 %	75 %	54 %	75 %	70 %	65 %
		fl	fl	fl	fl	fl	fl
Phenol		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
bis(2-Chloroethyl)ether		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2-Chlorophenol		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
1,3-Dichlorobenzene		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
1,4-Dichlorobenzene		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
1,2-Dichlorobenzene		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2-Methylphenol		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2,2'-oxybis(1-Chloropropane)		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
3/4 Methylphenol		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
N-Nitroso-di-n-propylamine		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Hexachloroethane		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Nitrobenzene		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Isophorone		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2-Nitrophenol		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2,4-Dimethylphenol		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
bis(2-Chloroethoxy)methane		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2,4-Dichlorophenol		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
1,2,4-Trichlorobenzene		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Naphthalene		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
4-Chloroaniline		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Hexachlorobutadiene		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
4-Chloro-3-methylphenol		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2-Methylnaphthalene		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Hexachlorocyclopentadiene		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2,4,6-Trichlorophenol		1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2,4,5-Trichlorophenol		2600000 U	520000 U	2600000 U	2600000 U	520000 U	520000 U

*= Outside of EPA CLP QC limits.

000000010

Cust ID:	J17H44	J17H23	J17H24	J17H25	J17H26	J17H27
RFW#:	005	006	007	008	009	010
2-Chloronaphthalene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2-Nitroaniline	2600000 U	520000 U	2600000 U	2600000 U	520000 U	520000 U
Dimethylphthalate	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Acenaphthylene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2,6-Dinitrotoluene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
3-Nitroaniline	2600000 U	520000 U	2600000 U	2600000 U	520000 U	520000 U
Acenaphthene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2,4-Dinitrophenol	2600000 U	520000 U	2600000 U	2600000 U	520000 U	520000 U
4-Nitrophenol	2600000 U	520000 U	2600000 U	2600000 U	520000 U	520000 U
Dibenzofuran	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
2,4-Dinitrotoluene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Diethylphthalate	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
4-Chlorophenyl-phenylether	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Fluorene	85000 J	210000 U	160000 J	150000 J	210000 U	210000 U
4-Nitroaniline	2600000 U	520000 U	2600000 U	2600000 U	520000 U	520000 U
4,6-Dinitro-2-methylphenol	2600000 U	520000 U	2600000 U	2600000 U	520000 U	520000 U
N-Nitrosodiphenylamine (1)	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
4-Bromophenyl-phenylether	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Hexachlorobenzene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Pentachlorophenol	2600000 U	520000 U	2600000 U	2600000 U	520000 U	520000 U
Phenanthrene	180000 J	23000 J	130000 J	200000 J	210000 U	210000 U
Anthracene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Carbazole	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Di-n-butylphthalate	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Fluoranthene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Pyrene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Butylbenzylphthalate	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
3,3'-Dichlorobenzidine	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Benzo(a)anthracene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Chrysene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
bis(2-Ethylhexyl)phthalate	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Di-n-octyl phthalate	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Benzo(b)fluoranthene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Benzo(k)fluoranthene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Benzo(a)pyrene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Indeno(1,2,3-cd)pyrene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Dibenz(a,h)anthracene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U
Benzo(g,h,i)perylene	1000000 U	210000 U	1000000 U	1000000 U	210000 U	210000 U

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

000000011

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 09/25/08 10:47

RFW Batch Number: 0809L085 Client: WC-HANFORD RC-088 K1323 Work Order: 60049001001 Page: 3a

	Cust ID:	J17H28	J17H29	J17H30	J17H31	J17H32	SBLKXQ
Sample Information	RFW#:	011	012	013	014	015	08LE0434-MB1
	Matrix:	OIL	OIL	OIL	OIL	OIL	OIL
	D.F.:	105	105	105	21.0	105	21.0
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Recovery	Nitrobenzene-d5	101 %	87 %	88 %	92 %	113 %	102 %
	2-Fluorobiphenyl	111 %	89 %	107 %	98 %	108 %	108 %
	Terphenyl-d14	84 %	80 %	95 %	93 %	88 %	103 %
	Phenol-d5	95 %	80 %	107 %	91 %	99 %	100 %
	2-Fluorophenol	104 %	88 %	95 %	96 %	100 %	107 %
	2,4,6-Tribromophenol	84 %	76 %	78 %	70 %	68 %	95 %
		fl	fl	fl	fl	fl	fl
Phenol		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
bis(2-Chloroethyl)ether		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2-Chlorophenol		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
1,3-Dichlorobenzene		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
1,4-Dichlorobenzene		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
1,2-Dichlorobenzene		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2-Methylphenol		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2,2'-oxybis(1-Chloropropane)		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
3/4 Methylphenol		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
N-Nitroso-di-n-propylamine		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Hexachloroethane		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Nitrobenzene		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Isophorone		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2-Nitrophenol		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2,4-Dimethylphenol		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
bis(2-Chloroethoxy)methane		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2,4-Dichlorophenol		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
1,2,4-Trichlorobenzene		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Naphthalene		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
4-Chloroaniline		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Hexachlorobutadiene		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
4-Chloro-3-methylphenol		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2-Methylnaphthalene		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Hexachlorocyclopentadiene		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2,4,6-Trichlorophenol		1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2,4,5-Trichlorophenol		2600000 U	2600000 U	2600000 U	520000 U	2600000 U	520000 U

*= Outside of EPA CLP QC limits.

000000012

Cust ID:	J17H28	J17H29	J17H30	J17H31	J17H32	SBLKXQ
RFW#:	011	012	013	014	015	08LE0434-MB1
2-Chloronaphthalene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2-Nitroaniline	2600000 U	2600000 U	2600000 U	520000 U	2600000 U	520000 U
Dimethylphthalate	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Acenaphthylene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2,6-Dinitrotoluene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
3-Nitroaniline	2600000 U	2600000 U	2600000 U	520000 U	2600000 U	520000 U
Acenaphthene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2,4-Dinitrophenol	2600000 U	2600000 U	2600000 U	520000 U	2600000 U	520000 U
4-Nitrophenol	2600000 U	2600000 U	2600000 U	520000 U	2600000 U	520000 U
Dibenzofuran	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
2,4-Dinitrotoluene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Diethylphthalate	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
4-Chlorophenyl-phenylether	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Fluorene	120000 J	63000 J	240000 J	210000 U	73000 J	210000 U
4-Nitroaniline	2600000 U	2600000 U	2600000 U	520000 U	2600000 U	520000 U
4,6-Dinitro-2-methylphenol	2600000 U	2600000 U	2600000 U	520000 U	2600000 U	520000 U
N-Nitrosodiphenylamine (1)	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
4-Bromophenyl-phenylether	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Hexachlorobenzene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Pentachlorophenol	2600000 U	2600000 U	2600000 U	520000 U	2600000 U	520000 U
Phenanthrene	280000 J	110000 J	310000 J	210000 U	120000 J	210000 U
Anthracene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Carbazole	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Di-n-butylphthalate	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Fluoranthene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Pyrene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Butylbenzylphthalate	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
3,3'-Dichlorobenzidine	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Benzo(a)anthracene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Chrysene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
bis(2-Ethylhexyl)phthalate	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Di-n-octyl phthalate	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Benzo(b)fluoranthene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Benzo(k)fluoranthene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Benzo(a)pyrene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Indeno(1,2,3-cd)pyrene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Dibenz(a,h)anthracene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U
Benzo(g,h,i)perylene	1000000 U	1000000 U	1000000 U	210000 U	1000000 U	210000 U

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

000000014

Cust ID: SBLKXQ BS

Sample Information

RFW#: 08LE0434-MB1
Matrix: OIL
D.F.: 21.0
Units: ug/Kg

Surrogate Recovery	Nitrobenzene-d5	77	%
	2-Fluorobiphenyl	87	%
	Terphenyl-d14	101	%
	Phenol-d5	82	%
	2-Fluorophenol	83	%
	2,4,6-Tribromophenol	95	%

==========fl==========fl==========fl==========fl==========fl==========fl

Phenol	85	%
bis(2-Chloroethyl)ether	95	%
2-Chlorophenol	81	%
1,3-Dichlorobenzene	88	%
1,4-Dichlorobenzene	85	%
1,2-Dichlorobenzene	90	%
2-Methylphenol	90	%
2,2'-oxybis(1-Chloropropane)	104	%
3/4 Methylphenol	82	%
N-Nitroso-di-n-propylamine	94	%
Hexachloroethane	87	%
Nitrobenzene	75	%
Isophorone	76	%
2-Nitrophenol	72	%
2,4-Dimethylphenol	77	%
bis(2-Chloroethoxy)methane	93	%
2,4-Dichlorophenol	76	%
1,2,4-Trichlorobenzene	78	%
Naphthalene	77	%
4-Chloroaniline	77	%
Hexachlorobutadiene	76	%
4-Chloro-3-methylphenol	77	%
2-Methylnaphthalene	82	%
Hexachlorocyclopentadiene	86	%
2,4,6-Trichlorophenol	89	%
2,4,5-Trichlorophenol	89	%

*= Outside of EPA CLP QC limits.

Cust ID: **SBLKXQ BS**

RFW#: **08LE0434-MB1**

2-Chloronaphthalene	86	%
2-Nitroaniline	88	%
Dimethylphthalate	102	%
Acenaphthylene	91	%
2,6-Dinitrotoluene	88	%
3-Nitroaniline	98	%
Acenaphthene	90	%
2,4-Dinitrophenol	47	%
4-Nitrophenol	78	%
Dibenzofuran	94	%
2,4-Dinitrotoluene	93	%
Diethylphthalate	105	%
4-Chlorophenyl-phenylether	105	%
Fluorene	89	%
4-Nitroaniline	86	%
4,6-Dinitro-2-methylphenol	68	%
N-Nitrosodiphenylamine (1)	86	%
4-Bromophenyl-phenylether	91	%
Hexachlorobenzene	90	%
Pentachlorophenol	97	%
Phenanthrene	93	%
Anthracene	93	%
Carbazole	86	%
Di-n-butylphthalate	114	%
Fluoranthene	93	%
Pyrene	92	%
Butylbenzylphthalate	116	%
3,3'-Dichlorobenzidine	78	%
Benzo(a)anthracene	81	%
Chrysene	86	%
bis(2-Ethylhexyl)phthalate	98	%
Di-n-octyl phthalate	100	%
Benzo(b)fluoranthene	82	%
Benzo(k)fluoranthene	86	%
Benzo(a)pyrene	81	%
Indeno(1,2,3-cd)pyrene	80	%
Dibenz(a,h)anthracene	88	%
Benzo(g,h,i)perylene	90	%

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

000000015

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H40

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-001

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

Lab File ID: C091513

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 105

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	8.057	2000000	J
2.	UNKNOWN	18.736	2000000	J
3.	ALKANE	19.743	2000000	J
4.	PAH	21.974	2000000	J
5.	UNKNOWN	23.774	2000000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H41

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-002

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

Lab File ID: C091516

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 105

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	16.968	2000000	J
2.	UNKNOWN	18.733	2000000	J
3.	PAH	20.268	2000000	J
4.	PAH	21.971	2000000	J
5.	UNKNOWN	22.488	2000000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H42

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-003

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

Lab File ID: D091509

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/15/08

Injection Volume: 2.0(uL)

Dilution Factor: 105

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	17.708	1000000	J
2.	PAH	18.762	2000000	J
3.	PAH	18.937	2000000	J
4.	UNKNOWN	19.078	1000000	J
5.	TRIMETHYLNAPHTHALENE	19.262	2000000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H43

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-004

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

Lab File ID: D091608

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 210

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	18.331	2000000	J
2.	PAH	18.717	3000000	J
3.	TRIMETHYLNAPHTHALENE	18.902	4000000	J
4.	UNKNOWN	19.051	2000000	J
5.	TRIMETHYLNAPHTHALENE	19.235	3000000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H44

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-005

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

Lab File ID: D091511

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/15/08

Injection Volume: 2.0(uL)

Dilution Factor: 105

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	17.703	3000000	J
2.	TRIMETHYLNAPHTHALENE	18.757	3000000	J
3.	UNKNOWN	18.932	3000000	J
4.	TRIMETHYLNAPHTHALENE	19.266	2000000	J
5.	PAH	20.267	3000000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H23

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-006

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

Lab File ID: C091608

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 21.0

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	7.996	400000	J
2.	TRIMETHYLNAPHTHALENE	18.476	200000	J
3.	UNKNOWN	18.657	300000	J
4.	UNKNOWN	20.578	200000	J
5.	UNKNOWN	23.704	200000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H24

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-007

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

Lab File ID: D091513

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/15/08

Injection Volume: 2.0(uL)

Dilution Factor: 105

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	17.694	1000000	J
2.	UNKNOWN	18.361	1000000	J
3.	TRIMETHYLNAPHTHALENE	18.747	2000000	J
4.	UNKNOWN	18.923	2000000	J
5.	TRIMETHYLNAPHTHALENE	19.257	2000000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H25

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-008

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

Lab File ID: D091609

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 105

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	17.664	2000000	J
2.	TRIMETHYLNAPHTHALENE	18.727	2000000	J
3.	UNKNOWN	18.902	3000000	J
4.	TRIMETHYLNAPHTHALENE	19.236	3000000	J
5.	PAH	19.964	2000000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H26

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-009

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

Lab File ID: C091609

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 21.0

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 0

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H27

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-010

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

Lab File ID: C091610

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 21.0

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	7.995	700000	J
2.	UNKNOWN	16.900	100000	J
3.	UNKNOWN	18.665	200000	J
4.	TRIMETHYLNAPHTHALENE	19.053	100000	J
5.	UNKNOWN	20.577	200000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H28

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-011

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

Lab File ID: N091511

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 105

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	14.852	2000000	J
2.	ALKANE	15.340	2000000	J
3.	UNKNOWN	16.578	3000000	J
4.	PAH	17.895	2000000	J
5.	ALKANE	21.653	2000000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H29

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-012

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

Lab File ID: N091512

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 105

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	14.845	1000000	J
2.	UNKNOWN	15.334	1000000	J
3.	UNKNOWN	16.572	1000000	J
4.	TRIMETHYLNAPHTHALENE	16.955	1000000	J
5.	ALKANE	17.147	900000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H30

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-013

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

Lab File ID: N091513

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 105

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	14.853	2000000	J
2.	UNKNOWN	15.341	2000000	J
3.	UNKNOWN	16.588	2000000	J
4.	PAH	17.896	2000000	J
5.	PAH	18.646	2000000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H31

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-014

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

Lab File ID: C091611

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 21.0

GPC Cleanup: (Y/N) N

pH: _____

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.988	300000	J
2.	UNKNOWN	18.658	60000	J
3.	UNKNOWN	20.562	50000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J17H32

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 0809L085-015

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

Lab File ID: N091515

Level: (low/med) LOW

Date Received: 09/10/08

% Moisture: 100 decanted: (Y/N)__

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/16/08

Injection Volume: 2.0(uL)

Dilution Factor: 105

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	14.837	1000000	J
2.	UNKNOWN	15.326	2000000	J
3.	UNKNOWN	16.564	1000000	J
4.	TRIMETHYLNAPHTHALENE	16.947	1000000	J
5.	UNKNOWN	17.880	1000000	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKXQ

Lab Name: Lionville Labs, Inc. Work Order: 60049001001

Client: WC-HANFORD RC-088 K1323

Matrix: (soil/water) OIL

Lab Sample ID: 08LE0434-MB1

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

Lab File ID: C091506

Level: (low/med) LOW

Date Received: 09/12/08

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

Date Extracted: 09/12/08

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 09/15/08

Injection Volume: 2.0(uL)

Dilution Factor: 21.0

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.	SILOXANE	29.500	60000	J
2.	UNKNOWN	36.433	50000	J
3.	SILOXANE	37.191	60000	J
4.	SILOXANE	37.234	60000	J
5.	UNKNOWN	37.294	70000	J

onville Laboratory Use Only

0809L085

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

000000032

ent WC HANFORD KC-088

t. Final Proj. Sampling Date

oject# 60049-001-001-0001-00

oject Contact/Phone#

onville Laboratory Project Manager O. Johnson

SW846 Del STD TAT 7 days

ate Rec'd 9-10-08 Date Due 9-17-08

		A	B
Refrigerator #		6	3
#/Type Container	Liquid	1G	1G
	Solid		
Volume		40	250
Preservatives		—	—

ANALYSES REQUESTED →

ORGANIC				INORG		
VOA	BNA	Pest/PCB	Herb	ICP Metal	Hg	CN

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	062944	062544	OPCB					Mat①		IFGN				
001	J17H40			oil	9-5-08	0950	X	X	X					X		X				
002	41					1005	X	X	X					X		X				
003	42					1250	X	X	X					X		X				
004	43					1305	X	X	X					X		X				
005	44					1320	X	X	X					X		X				
006	23				9-3-08	1000	X	X	X					X		X				
007	24					1015	X	X	X					X		X				
008	25					1240	X	X	X					X		X				
009	26					1345	X	X	X					X		X				
010	27					1405	X	X	X					X		X				

Lionville Laboratory Use Only

Special Instructions: Run matrix QC

mat① = HSL + Sn, Zr

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	9/10/08	0935

Relinquished by	Received by	Date	Time

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

onville Laboratory Use Only

08090085

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

lent W.C. HANFORD

t. Final Proj. Sampling Date Sept 1

oject# 5

oject Contact/Phone# O.T.

onville Laboratory Project Manager

Del TAT

ate Rec'd Date Due

		A	B													
Refrigerator #		6	3													
#/Type Container	Liquid	16	16													
	Solid															
Volume		40	250													
Preservatives		—	—													
ANALYSES REQUESTED		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				TCLP Metal Hg	CN	TPH					
		Lionville Laboratory Use Only														
		0624H	0625H	OPCB					Metal		IIGN					

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	0624H	0625H	OPCB					Metal		IIGN				
011	J17H28			oil	9-30-05	1440	X	X	X					X		X				
012	29					1450	X	X	X					X		X				
013	30					1500	X	X	X					X		X				
014	31					1530	X	X	X					X		X				
015	32					1540	X	X	X					X		X				
016	33 INS-1008																			
017	34																			

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

pecial Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
		9/10/05	0932

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000033

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-075	Page 1 of 1

Collector: S. Deeter	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: ~~15~~ 7 Days JSD 9/5/08		
Project Designation: 618-7 Burial Ground - Other	Sampling Location: 618-7 Burial Ground (drums)		SAF No.: RC-088
Ice Chest No.: EKC-99-056	Field Logbook No.: EL-1395-13	COA: RG61878500	Method of Shipment: FedEx
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None					
Type of Container	aG	aG	aG	aG	aG	P					
No. of Container(s)	1	1	0	0	0	1					
Volume	40mL	250mL	125mL	125mL	60mL	500mL					
SAMPLE ANALYSIS	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.					

Sample No.	Matrix *	Sample Date	Sample Time									RCF #	Drum #
17H40	OTHER	9/5/08	0950	X	X	X	X	X	X			J17H70	7039
17H41	OTHER	9/5/08	1005	X	X	X	X	X				J17H71	7042
17H42	OTHER	9/5/08	1250	X	X	X	X	X				J17H72	7038
17H43	OTHER	9/5/08	1305	X	X	X	X	X				J17H73	7161
17H44	OTHER	9/5/08	1320	X	X	X	X	X				J17H74	7037

9/5/08

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: SDEETER — Date/Time: 1630 9-5-08	Received By/Stored In: SR DeBruine TRD — Date/Time: 1630 9/5/08	
Relinquished By/Removed From: SR DeBruine TRD — Date/Time: 1700 9/5/08	Received By/Stored In: 1060 IB — Date/Time: 1700 9/5/08	
Relinquished By/Removed From: 1060 IB — Date/Time: 0830 SEP 09 2008	Received By/Stored In: MSlankouk — Date/Time: 0830 SEP 09 2008	
Relinquished By/Removed From: WCH MSlankouk — Date/Time: 0830 SEP 09 2008	Received By/Stored In: FedEx — Date/Time:	
Relinquished By/Removed From: FedEx — Date/Time: 9-10-08 0935	Received By/Stored In: [signature] — Date/Time: 9-10-08 0935	
Relinquished By/Removed From: — Date/Time:	Received By/Stored In: — Date/Time:	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese; Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

Matrix *

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

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

VCH-EE-011

KMW

000000034

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-071	Page 1 of 1

ollector S. Deeter	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code	Data Turnaround ~~15~~ Days 7 RTC 9/3/08		
roject Designation 618-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums)		SAF No. RC-088
ce Chest No. AFS-06-003	Field Logbook No. EL-1395-13	COA RG61878500	Method of Shipment Fed Ex
hipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080346		Bill of Lading/Air Bill No. See aspc

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C					
Type of Container	aG	aG	aG	aG	P	aG					
No. of Container(s)	1	0	0	0	1	1					
Volume	~~250mL~~ 500 1L 50 RTC	125mL	125mL	60mL	500mL	40mL					
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. RTC 9/3/08	VOA 8270A					PIN #

Sample No.	Matrix *	Sample Date	Sample Time										
~~17H20~~	~~OTHER~~												
~~17H21~~	~~OTHER~~												
~~17H22~~	~~OTHER~~												
17H23	OTHER	9/3/08	1000	X	X	X	X		X				7033
17H24	OTHER	9/3/08	1015	X	X	X	X		X				7007

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
S. DEETER	1800 9-3-08	RT Coffman / RT Coffman	1700 9/3/08
RT Coffman / RT Coffman	1900 9/3/08	Receipt #1B, 1060	1900 9/3/08
1060/1B	0815 SEP 08 2008	MStankovich	0815 SEP 08 2008
MStankovich	0815 SEP 08 2008	Fed Ex	
Fed Ex	9-10-08 0935		9-10-08 0935

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)
(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

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

VCH-EE-011

000000035

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-088-072 | Page 1 of 1

Collector: S. Deeter	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: ~~15~~ 7 Days		
Project Designation: 618-7 Burial Ground - Other	Sampling Location: 618-7 Burial Ground (drums)		SAF No.: RC-088
Ice Chest No.: HFS-06-003	Field Logbook No.: EL-1395-13	COA: RG61878500	Method of Shipment: FedEx RTC 9/3/08
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080346		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C					
Type of Container	aG	aG	aG	aG	P	2G					
No. of Container(s)	1	0	0	0	1	1					
Volume	250mL	125mL	125mL	60mL	500mL	40mL					
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. RTC 9/3/08	VOA 8270A					PIN #
Sample No.	Matrix *	Sample Date	Sample Time								
17H25	OTHER	9/3/08	1240	X	X	X	X		X		6960
17H26	OTHER		1345	X	X	X	X		X		7144
17H27	OTHER		1405	X	X	X	X		X		7140
17H28	OTHER		1440	X	X	X	X		X		7034
17H29	OTHER	9/3/08	1450	X	X	X	X		X		7035

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
S. Deeter	1700 9-3-08	RT Coffman / RT Coffman	1700 9/3/08
RT Coffman / RT Coffman	1900 9/3/08	Roger LB, 1060,	1900 9/3/08
1060/10	0915 SEP 08 2008	MS Lankford	0915 SEP 08 2008
MS Lankford	0915 SEP 08 2008	Fed Ex	
Fed Ex	9-10-08 0935		9-30-08 0935

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) (Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc); ICP Metals - 6010A (Add-on) (Arsenic, Lead, Selenium, Thallium, Tin, Zirconium); Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

000000036

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-073	Page 1 of 1

ollector S. Deeter	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code	Data Turnaround 15 Days		
oject Designation 618-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums)		SAF No. RC-088
e Chest No. HFS-06-003	Field Logbook No. EL-1395-13	COA RG61878500	Method of Shipment FED EX
hipped To EBERLINE SERVICES/LIONVILLE	Offsite Property No. A080346		Bill of Lading/Air Bill No. See OSPC

OSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

Vone

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4°C					
Type of Container	aG	aG	aG	aG	P	aG					
No. of Container(s)	1	0	0	0	1	1					
Volume	250mL	125mL	125mL	60mL	500mL	40mL					
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. RJC 9/3/08	VOA 8270A					PIN #
Sample No.	Matrix *	Sample Date	Sample Time								
17H30	OTHER	9/3/08	1500	X	X	X	X		X			7045
17H31	OTHER	9/3/08	1530	X	X	X	X		X			7142
17H32	OTHER	9/3/08	1540	X	X	X	X		X			7141
17H33	OTHER											
17H34	OTHER											

CHAIN OF POSSESSION	Sign/Print Names	
elinquished By/Removed From SDE EBER	Date/Time 1700 9-3-08	Received By/Stored In RJ Coffman / RJ Coffman
Date/Time 1700 9/3/08	elinquished By/Removed From RJ Coffman / RJ Coffman	Date/Time 1900 9/3/08
Received By/Stored In REFER #1B, 1060	Date/Time 1900 9/3/08	elinquished By/Removed From 1060/1B
Date/Time 0915 SEP 0 8 2008	Received By/Stored In MSlankoud,	Date/Time 0915 SEP 0 8 2008
elinquished By/Removed From MSlankoud	Date/Time 0915 SEP 0 8 2008	Received By/Stored In FED EX
Date/Time	elinquished By/Removed From FED EX	Date/Time 9-10-08 0935
Received By/Stored In	Date/Time 9-10-08 0935	elinquished By/Removed From
Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

VCH-EE-011

000000037

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: W.C. Hanford
Project/SAF/SOW/Release #: RC-088

Date: 9-10-08

LvLI Batch #: 0809C085

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7900 8019 1057 7905 7304 2908
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 2-5 2.2	°C	Cooler # ERC-99-056 AFS-06-003
How was the temperature taken?	☑ IR	☑ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☑ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals
7. COC (Client & LvLI) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☑ Yes	☐ No	
All samples received on COC?	☑ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☑ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☑ N/A
13. VOA, TOC, TOX free of headspace?	☑ Yes	☐ No	☐ N/A
14. QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A
15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted _____ Date _____

LvLI

Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

RECEIVED OCT 2008

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17H40	001	OI	08LE0439	09/05/08	09/15/08	09/17/08
J17H40	001 MS	OI	08LE0439	09/05/08	09/15/08	09/17/08
J17H40	001 MSD	OI	08LE0439	09/05/08	09/15/08	09/17/08
J17H41	002	OI	08LE0439	09/05/08	09/15/08	09/17/08
J17H42	003	OI	08LE0439	09/05/08	09/15/08	09/17/08
J17H43	004	OI	08LE0439	09/05/08	09/15/08	09/17/08
J17H44	005	OI	08LE0439	09/05/08	09/15/08	09/17/08
J17H23	006	OI	08LE0439	09/03/08	09/15/08	09/17/08
J17H24	007	OI	08LE0439	09/03/08	09/15/08	09/17/08
J17H25	008	OI	08LE0439	09/03/08	09/15/08	09/17/08
J17H26	009	OI	08LE0439	09/03/08	09/15/08	09/17/08
J17H27	010	OI	08LE0439	09/03/08	09/15/08	09/17/08
J17H28	011	OI	08LE0439	09/03/08	09/15/08	09/17/08
J17H29	012	OI	08LE0439	09/03/08	09/15/08	09/17/08
J17H30	013	OI	08LE0439	09/03/08	09/15/08	09/17/08
J17H31	014	OI	08LE0439	09/03/08	09/15/08	09/17/08
J17H32	015	OI	08LE0439	09/03/08	09/15/08	09/18/08

LAB QC:

PBLKUQ	MB1	S	08LE0439	N/A	09/15/08	09/17/08
PBLKUQ	MB1 BS	S	08LE0439	N/A	09/15/08	09/17/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: WC-HANFORD RC-088 K1323
LVL #: 0809L085

W.O. #: 60049-001-001-0001-00
Date Received: 09-02-2008

PCB

Fifteen (15) oil samples were collected on 09-03,05-2008.

The samples and their associated QC samples were extracted on 09-15-2008 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 09-17,18-2008. The extraction procedure was based on method 3580A (waste dilution 1g into 10 mLs of Hexane) and the extracts were analyzed based on method 8082.

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

1. All samples were extracted and analyzed within hold time.
2. The samples and their associated QC samples received Copper-Sulfur and Sulfuric Acid cleanups according to Lionville Laboratory SOPs based on SW846 methods 3660A and 3665A respectively.
3. The method blank was below the reporting limits for all target compounds.
4. All obtainable surrogate recoveries were within acceptance criteria.
5. All blank spike recoveries were within acceptance criteria.
6. All matrix spike recoveries were within acceptance criteria.
7. All initial calibrations associated with this data set were within acceptance criteria.
8. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
9. LVL 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.

r:\group\data\2008\pest-pcb\tmu\0809-085ojoil2.pcb.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 14 pages.

LIONVILLE LABORATORY INC.

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

9/30/08
Date

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
B	=	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
.I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
P	=	This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.
NPM	=	No pattern match for multi-component target analytes.

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 09/18/08 13:03

RFW Batch Number: **0809L085** Client: **WC-HANFORD RC-088 K1323** Work Order: 60049001001 Page: 1

00000005

	Cust ID:	J17H40	J17H40	J17H40	J17H41	J17H42	J17H43
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	OIL	OIL	OIL	OIL	OIL	OIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	84 %	84 %	74 %	76 %	113 %	109 %
	Decachlorobiphenyl	85 %	85 %	84 %	74 %	73 %	71 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		400 U	89 %	84 %	400 U	400 U	400 U
Aroclor-1221		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1232		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1242		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1248		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1254		400 U	400 U	400 U	400 U	3700	400 U
Aroclor-1260		400 U	92 %	90 %	400 U	1900	400 U

	Cust ID:	J17H44	J17H23	J17H24	J17H25	J17H26	J17H27
Sample Information	RFW#:	005	006	007	008	009	010
	Matrix:	OIL	OIL	OIL	OIL	OIL	OIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	78 %	88 %	78 %	75 %	116 %	88 %
	Decachlorobiphenyl	74 %	98 %	58 %	75 %	108 %	115 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1221		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1232		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1242		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1248		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1254		660	400 U	400 U	400 U	400 U	400 U
Aroclor-1260		400 U	400 U	400 U	400 U	400 U	400 U

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

Lionville Laboratory, Inc.

PCBs by GC

Report Date: 09/18/08 13:03

RFW Batch Number: **0809L085** Client: **WC-HANFORD RC-088 K1323** Work Order: 60049001001 Page: 2

	Cust ID:	J17H28	J17H29	J17H30	J17H31	J17H32	PBLKUQ
Sample Information	RFW#:	011	012	013	014	015	08LE0439-MB1
	Matrix:	OIL	OIL	OIL	OIL	OIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	69 %	92 %	70 %	100 %	111 %	104 %
	Decachlorobiphenyl	77 %	96 %	72 %	107 %	115 %	98 %
Aroclor-1016		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1221		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1232		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1242		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1248		400 U	400 U	400 U	3700	400 U	400 U
Aroclor-1254		400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1260		400 U	400 U	400 U	400 U	400 U	400 U

	Cust ID:	PBLKUQ BS
Sample Information	RFW#:	08LE0439-MB1
	Matrix:	SOIL
	D.F.:	1.00
	Units:	UG/KG
Surrogate:	Tetrachloro-m-xylene	110 %
	Decachlorobiphenyl	103 %
Aroclor-1016		92 %
Aroclor-1221		400 U
Aroclor-1232		400 U
Aroclor-1242		400 U
Aroclor-1248		400 U
Aroclor-1254		400 U
Aroclor-1260		106 %

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

000000000

Bionville Laboratory, Inc.

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 09/15/08 Extraction Batch No: 08LE0439 Analyst: MF Method: **** WD3580

Test: OPCB Cleanup Date: 09/15/08 Analyst: MF Client: WC-HANFORD RC-088 K1323

LIMS Report Date: 09/16/08 Solvent: HEXANE Adsorbent: H2SO4

Sample No:	Client Name / Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0809L085-	WC-HANFORD RC-088 K1323										
001	J17H40		1.0	1.0		10		1.0	N	0.0	10000
001 -S	J17H40		1.0	1.0	1.0	10		1.0	N	0.0	10000
001 -T	J17H40		1.0	1.0	1.0	10		1.0	N	0.0	10000
002	J17H41		1.0	1.0		10		1.0	N	0.0	10000
003	J17H42		1.0	1.0		10		1.0	N	0.0	10000
004	J17H43		1.0	1.0		10		1.0	N	0.0	10000
005	J17H44		1.0	1.0		10		1.0	N	0.0	10000
006	J17H23		1.0	1.0		10		1.0	N	0.0	10000
007	J17H24		1.0	1.0		10		1.0	N	0.0	10000
008	J17H25		1.0	1.0		10		1.0	N	0.0	10000
009	J17H26		1.0	1.0		10		1.0	N	0.0	10000
010	J17H27		1.0	1.0		10		1.0	N	0.0	10000
011	J17H28		1.0	1.0		10		1.0	N	0.0	10000
012	J17H29		1.0	1.0		10		1.0	N	0.0	10000
013	J17H30		1.0	1.0		10		1.0	N	0.0	10000
014	J17H31		1.0	1.0		10		1.0	N	0.0	10000
015	J17H32		1.0	1.0		10		1.0	N	0.0	10000
08LE0439-MB1	PBLKUQ		1.0	1.0		10		1.0	N	100.00	10000
08LE0439-MB1 -S	PBLKUQ		1.0	1.0	1.0	10		1.0	N	100.00	10000

Comments:
Surrogate: 250 UL OLM PSURR 89916407
Spike: 250 UL AR1660 89916603

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
all	MF	9/16/08 0905	SR	9/16/08 9:05	OC

000000007

nville Laboratory Use Only

8091085

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

VLI

nt WC HANFORD KC-088

Final Proj. Sampling Date

ect# 60049-001-001-0001-00

ect Contact/Phone#

nville Laboratory Project Manager O-Johnson

SW846 Del STD TAT 7 days

e Rec'd 9-10-08 Date Due 9-17-08

		A	B
Refrigerator #		6	3
#/Type Container	Liquid	1G	1G
	Solid		
Volume		40	250
Preservatives		—	—

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb				TCP Metal Hg	CN	TPH-TRPH				
							ORGANIC							INORG						
							Lionville Laboratory Use Only													
							0624H	0625H	OPCB					Met①		IFGN				
001	J17H40			OIL	9-5-08	0950	X	X	X					X		X				
002	41					1005	X	X	X					X		X				
003	42					1250	X	X	X					X		X				
004	43					1305	X	X	X					X		X				
005	44					1320	X	X	X					X		X				
006	23				9-3-08	1000	X	X	X					X		X				
007	24					1015	X	X	X					X		X				
008	25					1240	X	X	X					X		X				
009	26					1345	X	X	X					X		X				
010	27					1405	X	X	X					X		X				

RIX
ES:
Soil
Sediment
Solid
Sludge
Water
Oil
Air
Drum
Solids
Drum
Liquids
EP/TCLP
Leachate
Wipe
Other
Fish

ecial Instructions: Run matrix QC

met① = HSL + Sn, Zr

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	9/10/08	0935

Relinquished by	Received by	Date	Time

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

nville Laboratory Use Only

7809L085

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

nt W.C. HANFORD

Final Proj. Sampling Date 9/1

ect# 5

ect Contact/Phone# O.J.

nville Laboratory Project Manager

Del TAT

e Rec'd Date Due

		A	B
Refrigerator #		6	3
#/Type Container	Liquid	1G	1G
	Solid		
Volume		40	250
Preservatives		—	—

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb				INORG Metal	CN	Ignit				
							Lionville Laboratory Use Only													
							0624H	0625H	OPCB					Metal		IIGN				
011	J17H28			oil	9-30-08	1440	X	X	X					X		X				
012	29					1450	X	X	X					X		X				
013	30					1500	X	X	X					X		X				
014	31					1530	X	X	X					X		X				
015	32					1540	X	X	X					X		X				
016	33 IN-1008																			
017	34																			

RIX
ES:
Soil
Sediment
Solid
Sludge
Water
Oil
Air
Drum Solids
Drum Liquids
EP/TCLP Leachate
Wipe
Other
Fish

ecial Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
		9/10/08	0932

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000009

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-075	Page 1 of 1

Collector: S. Deeter	Company Contact: Joan Kessner Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code:	Data Turnaround: ~~15~~ 7 Days SD 9/5/08
Project Designation: 618-7 Burial Ground - Other	Sampling Location: 618-7 Burial Ground (drums)	SAF No.: RC-088		
Ice Chest No.: EKC-99-056	Field Logbook No.: EL-1395-13 COA: RG61878500	Method of Shipment: FedEx		
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.	Bill of Lading/Air Bill No.: SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None					
Type of Container	aG	aG	aG	aG	aG	P					
No. of Container(s)	1	1	0	0	0	1					
Volume	40mL	250mL	125mL	125mL	60mL	500mL					
SAMPLE ANALYSIS	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions.					

Sample No.	Matrix *	Sample Date	Sample Time									REF #	Drum #
17H40	OTHER	9/5/08	0950	X	X	X	X	X				J17H70	7039
17H41	OTHER	9/5/08	1005	X	X	X	X	X				J17H71	7042
17H42	OTHER	9/5/08	1250	X	X	X	X	X				J17H72	7038
17H43	OTHER	9/5/08	1305	X	X	X	X	X				J17H73	7161
17H44	OTHER	9/5/08	1320	X	X	X	X	X				J17H74	7037

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
S DEETER	9-5-08 1630	SR DeDwiger	9/5/08 1630
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
SR DeDwiger	9/5/08 1700	1060 IB	9/5/08 1700
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
060/ IB	0830 SEP 09 2008	MS Hankovich	0830 SEP 09 2008
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
MS Hankovich	0830 SEP 09 2008	FedEx	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
FedEx	9-10-08 0935		9-10-08 0935
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

KMW

0100000010

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-071	Page 1 of 1

ollector S. Deeter	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code	Data Turnaround ~~15~~ Days 7 RTC 9/3/08		
oject Designation 618-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums)		SAF No. RC-088
e Chest No. A FS-06-003	Field Logbook No. EL-1395-13	COA RG61878500	Method of Shipment Fed Ex
ipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080346		Bill of Lading/Air Bill No. See aspC

'OSSIBLE SAMPLE HAZARDS/REMARKS

'otential Radioactive contamination, potential beryllium ontamination

pecial Handling and/or Storage

'one

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C				
Type of Container	aG	aG	aG	aG	P	aG				
No. of Container(s)	1	0	0	0	1	1				
Volume	~~250mL~~ 500 RTC 7/50	125mL	125mL	60mL	100mL	40mL				
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. RTC 9/3/08	VOA 8270A				PHN

Sample No.	Matrix *	Sample Date	Sample Time										
~~7H20~~	~~OTHER~~												
~~7H21~~	~~OTHER~~												
~~7H22~~	~~OTHER~~												
7H23	OTHER	9/3/08	1000	X	X	X	X		X				7033
7H24	OTHER	9/3/08	1015	X	X	X	X		X				7007

CHAIN OF POSSESSION	Sign/Print Names		
inquished By/Removed From	Date/Time 1800 9-3-08	Received By/Stored In	Date/Time 1700 9/3/08
DEETER		RT Coffman / RT Coffman	
inquished By/Removed From	Date/Time 1900 9/3/08	Received By/Stored In	Date/Time 1900 9/3/08
RT Coffman / RT Coffman		Receipt #1B, 1060,	
inquished By/Removed From	Date/Time 0815 SEP 08 2008	Received By/Stored In	Date/Time 0815 SEP 08 2008
060/1B		MStankovich	
inquished By/Removed From LUCH	Date/Time 0915 SEP 08 2008	Received By/Stored In	Date/Time
MStankovich		Fed Ex	
inquished By/Removed From	Date/Time 9-10-08 0935	Received By/Stored In	Date/Time 9-10-08 0935
inquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) (Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc); ICP Metals - 6010A (Add-on) (Arsenic, Lead, Selenium, Thallium, Tin, Zirconium); Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

ABORATORY SECTION	Received By	Title	Date/Time
NAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

000000011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-072	Page 1 of 1
lector . Deeter	Company Contact Joan Kessner Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code Data Turnaround ~~15~~ 7 Days
iect Designation 18-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums)	SAF No. RC-088	
Chest No. AFS-06-003	Field Logbook No. EL-1395-13 COA RG61878500	Method of Shipment FedEx RTC 9/3/08	
oped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080346	Bill of Lading/Air Bill No. See OSPC	

OSSIBLE SAMPLE HAZARDS/REMARKS

otential Radioactive contamination, potential beryllium ntamination

pecial Handling and/or Storage

one

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C					
Type of Container	aG	aG	aG	aG	P	2G					
No. of Container(s)	1	0	0	0	1	1					
Volume	250mL	125mL	125mL	60mL	500mL	40mL					
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. 9/3/08	VOA 8270A					PIN #
Sample No. / Matrix * / Sample Date / Sample Time											
7H25 / OTHER / 9/3/08 / 1240	X	X	X	X		X					6960
7H26 / OTHER / / 1345	X	X	X	X		X					7144
7H27 / OTHER / / 1405	X	X	X	X		X					7140
7H28 / OTHER / / 1440	X	X	X	X		X					7034
7H29 / OTHER / 9/3/08 / 1450	X	X	X	X		X					7035

CHAIN OF POSSESSION	Sign/Print Names	
inquished By/Removed From DEETER	Date/Time 1700 9-3-08	Received By/Stored In RTCoffman/RTCoffman
Date/Time 1700 9/3/08		
inquished By/Removed From TCoffman/RTCoffman	Date/Time 1900 9/3/08	Received By/Stored In Reeder I.B. 1060
Date/Time 1900 9/3/08		
inquished By/Removed From 260/1B	Date/Time 0915 SEP 0 8 2008	Received By/Stored In mStankovich
Date/Time 0915 SEP 0 8 2008		
inquished By/Removed From mStankovich	Date/Time 0915 SEP 0 8 2008	Received By/Stored In FedEx
Date/Time		
inquished By/Removed From FedEx	Date/Time 9-10-08 0935	Received By/Stored In 9-3-08
Date/Time 0935		
inquished By/Removed From	Date/Time	Received By/Stored In
Date/Time		

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) (Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc); ICP Metals - 6010A (Add-on) (Arsenic, Lead, Selenium, Thallium, Tin, Zirconium); Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

ABORATORY SECTION	Received By	Title	Date/Time
NAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

000000012

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-073	Page 1 of 1

lector . Deeter	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code	Data Turnaround 15 Days		
iect Designation 18-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums)		SAF No. RC-088
Chest No. AFS-06-003	Field Logbook No. EL-1395-13	COA RG61878500	Method of Shipment FedEx
nped To EBERLINE SERVICES/LIONVILLE	Offsite Property No. A080346		Bill of Lading/Air Bill No. See OSPC

OSSIBLE SAMPLE HAZARDS/REMARKS

tential Radioactive contamination, potential beryllium ntamination

ecial Handling and/or Storage

ne

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4°C				
Type of Container	aG	aG	aG	aG	P	aG				
No. of Container(s)	1	0	0	0	1	1				
Volume	250mL	125mL	125mL	60mL	500mL	40mL				
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. RJC 9/3/08	VOA 8270A				PIN #

Sample No.	Matrix *	Sample Date	Sample Time										
'H30	OTHER	9/3/08	1500	X	X	X	X		X				7045
'H31	OTHER	9/3/08	1530	X	X	X	X		X				7142
'H32	OTHER	9/3/08	1540	X	X	X	X		X				7141
'H33	OTHER												
'H34	OTHER												

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
nquished By/Removed From DE Eff	1700 9-3-08	RJ Coffman / RJ Coffman	1700 9/3/08
nquished By/Removed From J Coffman / RJ Coffman	1900 9/3/08	Reefer #13, 1060	1900 9/3/08
nquished By/Removed From 260/1B	0915 SEP 0 8 2008	M Stankoud	0915 SEP 0 8 2008
nquished By/Removed From M Stankoud	0915 SEP 0 8 2008	Received By/Stored In FedEx	Date/Time
nquished By/Removed From FedEx	Date/Time 9-10-08 0935	Received By/Stored In [illegible]	Date/Time 9-10-08 0935
nquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) (Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc); ICP Metals - 6010A (Add-on) (Arsenic, Lead, Selenium, Thallium, Tin, Zirconium); Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

.BORATORY SECTION	Received By	Title	Date/Time
NAL SAMPLE ISPOSITION	Disposal Method	Disposed By	Date/Time

:H-EE-011

00000013

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: W.C. Hanford

Project SAF/SOW/Release #: RC-088

Date: 9-10-08

LvLI Batch #: 0809C085

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7900 8019 1057 7905 7304 2908
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 2-5 2-2	°C	Cooler # ERC-99-056 AFS-06-003
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
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Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17H40						
SILVER, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
SILVER, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
SILVER, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
ALUMINUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
ALUMINUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
ALUMINUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
ARSENIC, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
ARSENIC, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
ARSENIC, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
BARIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
BARIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
BARIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
CALCIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
CALCIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
CALCIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
CADMIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
CADMIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
CADMIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
COBALT, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
COBALT, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
COBALT, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
CHROMIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
CHROMIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
CHROMIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
COPPER, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
COPPER, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
COPPER, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
IRON, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
IRON, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
IRON, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
MERCURY, TOTAL	001	OI	08C0161	09/05/08	09/15/08	09/16/08
MERCURY, TOTAL	001 REP	OI	08C0161	09/05/08	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MERCURY, TOTAL	001 MS	OI	08C0161	09/05/08	09/15/08	09/16/08
POTASSIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
POTASSIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
POTASSIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
MANGANESE, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
MANGANESE, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
MANGANESE, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
SODIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
SODIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
SODIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
NICKEL, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
NICKEL, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
NICKEL, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
LEAD, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
LEAD, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
LEAD, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
ANTIMONY, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
ANTIMONY, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
ANTIMONY, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
SELENIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
SELENIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
SELENIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
TIN, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
TIN, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
TIN, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
THALLIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
THALLIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
THALLIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
VANADIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
VANADIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
VANADIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
ZINC, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08
ZINC, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
ZINC, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	001	OI	08L0335	09/05/08	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ZIRCONIUM, TOTAL	001 REP	OI	08L0335	09/05/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	001 MS	OI	08L0335	09/05/08	09/15/08	09/16/08
J17H41						
SILVER, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
ALUMINUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
ARSENIC, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
BARIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
CALCIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
CADMIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
COBALT, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
CHROMIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
COPPER, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
IRON, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
MERCURY, TOTAL	002	OI	08C0161	09/05/08	09/15/08	09/16/08
POTASSIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
MANGANESE, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
SODIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
NICKEL, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
LEAD, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
ANTIMONY, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
SELENIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
TIN, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
THALLIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
VANADIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
ZINC, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	002	OI	08L0335	09/05/08	09/15/08	09/16/08
J17H42						
SILVER, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
ALUMINUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
ARSENIC, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
BARIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CALCIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
CADMIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
COBALT, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
CHROMIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
COPPER, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
IRON, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
MERCURY, TOTAL	003	OI	08C0161	09/05/08	09/15/08	09/16/08
POTASSIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
MANGANESE, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
SODIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
NICKEL, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
LEAD, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
ANTIMONY, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
SELENIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
TIN, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
THALLIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
VANADIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
ZINC, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	003	OI	08L0335	09/05/08	09/15/08	09/16/08
J17H43						
SILVER, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
ALUMINUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
ARSENIC, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
BARIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
CALCIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
CADMIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
COBALT, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
CHROMIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
COPPER, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
IRON, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
MERCURY, TOTAL	004	OI	08C0161	09/05/08	09/15/08	09/16/08
POTASSIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
MANGANESE, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SODIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
NICKEL, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
LEAD, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
ANTIMONY, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
SELENIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
TIN, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
THALLIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
VANADIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
ZINC, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	004	OI	08L0335	09/05/08	09/15/08	09/16/08
J17H44						
SILVER, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
ALUMINUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
ARSENIC, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
BARIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
CALCIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
CADMIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
COBALT, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
CHROMIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
COPPER, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
IRON, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
MERCURY, TOTAL	005	OI	08C0161	09/05/08	09/15/08	09/16/08
POTASSIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
MANGANESE, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
SODIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
NICKEL, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
LEAD, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
ANTIMONY, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
SELENIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
TIN, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
THALLIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
VANADIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
ZINC, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	005	OI	08L0335	09/05/08	09/15/08	09/16/08

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INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

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CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17H23						
SILVER, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
ALUMINUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
ARSENIC, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
BARIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
CALCIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
CADMIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
COBALT, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
CHROMIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
COPPER, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
IRON, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
MERCURY, TOTAL	006	OI	08C0161	09/03/08	09/15/08	09/16/08
POTASSIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
MANGANESE, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
SODIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
NICKEL, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
LEAD, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
ANTIMONY, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
SELENIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
TIN, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
THALLIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
VANADIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
ZINC, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	006	OI	08L0335	09/03/08	09/15/08	09/16/08
J17H24						
SILVER, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
ALUMINUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
ARSENIC, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
BARIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
CALCIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
CADMIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COBALT, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
CHROMIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
COPPER, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
IRON, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
MERCURY, TOTAL	007	OI	08C0161	09/03/08	09/15/08	09/16/08
POTASSIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
MANGANESE, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
SODIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
NICKEL, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
LEAD, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
ANTIMONY, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
SELENIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
TIN, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
THALLIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
VANADIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
ZINC, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	007	OI	08L0335	09/03/08	09/15/08	09/16/08
J17H25						
SILVER, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
ALUMINUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
ARSENIC, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
BARIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
CALCIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
CADMIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
COBALT, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
CHROMIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
COPPER, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
IRON, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
MERCURY, TOTAL	008	OI	08C0161	09/03/08	09/15/08	09/16/08
POTASSIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
MANGANESE, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
SODIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
NICKEL, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LEAD, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
ANTIMONY, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
SELENIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
TIN, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
THALLIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
VANADIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
ZINC, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	008	OI	08L0335	09/03/08	09/15/08	09/16/08
J17H26						
SILVER, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
ALUMINUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
ARSENIC, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
BARIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
CALCIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
CADMIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
COBALT, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
CHROMIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
COPPER, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
IRON, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
MERCURY, TOTAL	009	OI	08C0161	09/03/08	09/15/08	09/16/08
POTASSIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
MANGANESE, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
SODIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
NICKEL, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
LEAD, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
ANTIMONY, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
SELENIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
TIN, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
THALLIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
VANADIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
ZINC, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	009	OI	08L0335	09/03/08	09/15/08	09/16/08
J17H27						
SILVER, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ALUMINUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
ARSENIC, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
BARIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
CALCIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
CADMIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
COBALT, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
CHROMIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
COPPER, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
IRON, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
MERCURY, TOTAL	010	OI	08C0161	09/03/08	09/15/08	09/16/08
POTASSIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
MANGANESE, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
SODIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
NICKEL, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
LEAD, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
ANTIMONY, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
SELENIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
TIN, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
THALLIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
VANADIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
ZINC, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	010	OI	08L0335	09/03/08	09/15/08	09/16/08
J17H28						
SILVER, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
ALUMINUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
ARSENIC, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
BARIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
CALCIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
CADMIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
COBALT, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
CHROMIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
COPPER, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
IRON, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MERCURY, TOTAL	011	OI	08C0161	09/03/08	09/15/08	09/16/08
POTASSIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
MANGANESE, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
SODIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
NICKEL, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
LEAD, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
ANTIMONY, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
SELENIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
TIN, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
THALLIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
VANADIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
ZINC, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	011	OI	08L0335	09/03/08	09/15/08	09/16/08
J17H29						
SILVER, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
ALUMINUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
ARSENIC, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
BARIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
CALCIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
CADMIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
COBALT, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
CHROMIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
COPPER, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
IRON, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
MERCURY, TOTAL	012	OI	08C0161	09/03/08	09/15/08	09/16/08
POTASSIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
MANGANESE, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
SODIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
NICKEL, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
LEAD, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
ANTIMONY, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
SELENIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
TIN, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
THALLIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
VANADIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
ZINC, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	012	OI	08L0335	09/03/08	09/15/08	09/16/08
J17H30						
SILVER, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
ALUMINUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
ARSENIC, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
BARIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
CALCIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
CADMIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
COBALT, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
CHROMIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
COPPER, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
IRON, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
MERCURY, TOTAL	013	OI	08C0161	09/03/08	09/15/08	09/16/08
POTASSIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
MANGANESE, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
SODIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
NICKEL, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
LEAD, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
ANTIMONY, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
SELENIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
TIN, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
THALLIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
VANADIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
ZINC, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	013	OI	08L0335	09/03/08	09/15/08	09/16/08
J17H31						
SILVER, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
ALUMINUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
ARSENIC, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BARIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
CALCIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
CADMIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
COBALT, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
CHROMIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
COPPER, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
IRON, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
MERCURY, TOTAL	014	OI	08C0161	09/03/08	09/15/08	09/16/08
POTASSIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
MAGNESIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
MANGANESE, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
SODIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
NICKEL, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
LEAD, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
ANTIMONY, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
SELENIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
TIN, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
THALLIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
VANADIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
ZINC, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	014	OI	08L0335	09/03/08	09/15/08	09/16/08
J17H32						
SILVER, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
ALUMINUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
ARSENIC, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
BARIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
BERYLLIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
CALCIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
CADMIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
COBALT, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
CHROMIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
COPPER, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
IRON, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
MERCURY, TOTAL	015	OI	08C0161	09/03/08	09/15/08	09/16/08
POTASSIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MAGNESIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
MANGANESE, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
SODIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
NICKEL, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
LEAD, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
ANTIMONY, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
SELENIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
TIN, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
THALLIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
VANADIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
ZINC, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08
ZIRCONIUM, TOTAL	015	OI	08L0335	09/03/08	09/15/08	09/16/08

LAB QC:

SILVER LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
SILVER, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
ALUMINUM LABORTORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
ALUMINUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
ARSENIC LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
ARSENIC, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
BARIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
BARIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
BERYLLIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
BERYLLIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
CALCIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
CALCIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
CADMIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
CADMIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
COBALT LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
COBALT, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
CHROMIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
CHROMIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
COPPER LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
COPPER, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
IRON LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
IRON, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
MERCURY LABORATORY	LC1 BS	S	08C0161	N/A	09/15/08	09/16/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MERCURY, TOTAL	MB1	S	08C0161	N/A	09/15/08	09/16/08
POTASSIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
POTASSIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
MAGNESIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
MAGNESIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
MANGANESE LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
MANGANESE, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
SODIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
SODIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
NICKEL LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
NICKEL, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
LEAD LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
LEAD, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
ANTIMONY LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
ANTIMONY, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
SELENIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
SELENIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
TIN LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
TIN, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
THALLIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
THALLIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
VANADIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
VANADIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
ZINC LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
ZINC, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08
ZIRCONIUM LABORATORY	LC1 BS	S	08L0335	N/A	09/15/08	09/16/08
ZIRCONIUM, TOTAL	MB1	S	08L0335	N/A	09/15/08	09/16/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: WC-HANFORD RC-088
LVL#: 0809L085
SDG/SAF#: K1323/RC-088

W.O.#: 60049-001-001-0001-00
Date Received: 09-10-08

METALS CASE NARRATIVE

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

1. This narrative covers the analyses of 15 oil samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary. The sample results were reported on a wet weight "as received" basis.

   All samples with the exception of sample J17H26 were run with 5-fold dilutions for Mercury due to sample matrix.

   All samples were run on a different instrument for Aluminum.

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

4. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury) with the exception of Sodium and Potassium in files TA0916A and TA0916C. All samples were rerun and reported for Potassium and Sodium in file PS0916B along with Aluminum.

5. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the LOQ). Exposure 3 for CCB2 in file TA0917A was eliminated as an outlier due to insufficient sample in the cup.

6. The preparation/method blank for 1 analyte was outside method criteria. {less than the Limit of Quantitation (3-10X the LOD), the samples read greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

   a). The MB 08L0335 result for Sodium was greater than the Limit of Quantitation (LOQ) {3-10x the (LOD) Limit of Detection} The samples J17H42, J17H24, J17H25, J17H26 and J17H30 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 48 pages.

a.) The remainder of the samples in this preparation batch were found to contain Sodium at concentrations greater than 20X the preparation blank.

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

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

9. The matrix spike (MS) recovery for 1 analyte was 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
J17H40	Iron	2,000	100.3

11. The duplicate analyses for 7 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

9/18/08
Date

alm/m09-085

LVLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

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

ot#: 08091085

eaching Procedure: __1310 __1311 __1312 __Other:_____

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

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

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	✓6010B		__200.7				__99
Antimony	✓6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	✓6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	✓6010B		__200.7				__99
Beryllium	✓6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	__6010B		__200.7				__99
Cadmium	✓6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	✓6010B		__200.7				__99
Chromium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	✓6010B		__200.7				__99
Copper	✓6010B	__7211 [5]	__200.7	__220.2			__99
Iron	✓6010B		__200.7				__99
Lead	✓6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	✓6010B		__200.7				__99
Manganese	✓6010B		__200.7				__99
Mercury	__7470A [3]	✓7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B		__200.7				__99
Nickel	✓6010B		__200.7				__99
Potassium	✓6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	✓6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	✓6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	✓6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B		__200.7				__99
Thallium	✓6010B	__7841 [5]	__200.7	__279.2 __200.9			__99
Tin	✓6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	__6010B [1]		__200.7 [1]			__1620	__99
Vanadium	✓6010B		__200.7				__99
Zinc	✓6010B		__200.7				__99
Zirconium	✓6010B [1]		__200.7 [1]			__1620	__99

Method: _____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

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

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

ABBREVIATIONS

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

ANALYTICAL METAL METHODS

1. Not included in the method element list.

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

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J17H40	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	6.0	MG/KG	3.8	1.0
		Arsenic, Total	0.47 u	MG/KG	0.47	1.0
		Barium, Total	0.32	MG/KG	0.09	1.0
		Beryllium, Total	5.0	MG/KG	0.05	1.0
		Calcium, Total	31.2	MG/KG	3.8	1.0
		Cadmium, Total	0.11	MG/KG	0.05	1.0
		Cobalt, Total	0.19 u	MG/KG	0.19	1.0
		Chromium, Total	0.28	MG/KG	0.19	1.0
		Copper, Total	0.69	MG/KG	0.19	1.0
		Iron, Total	93.8	MG/KG	4.2	1.0
		Mercury, Total	0.05 u	MG/KG	0.05	5.0
		Potassium, Total	46.5 u	MG/KG	46.5	1.0
		Magnesium, Total	7.0	MG/KG	2.4	1.0
		Manganese, Total	0.62	MG/KG	0.04	1.0
		Sodium, Total	3220	MG/KG	1.9	1.0
		Nickel, Total	0.30	MG/KG	0.19	1.0
		Lead, Total	0.29	MG/KG	0.28	1.0
		Antimony, Total	0.28 u	MG/KG	0.28	1.0
		Selenium, Total	0.57 u	MG/KG	0.57	1.0
		Tin, Total	0.57 u	MG/KG	0.57	1.0
		Thallium, Total	0.57 u	MG/KG	0.57	1.0
		Vanadium, Total	0.15	MG/KG	0.13	1.0
		Zinc, Total	30.5	MG/KG	0.57	1.0
		Zirconium, Total	15.5	MG/KG	4.7	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J17H41	Silver, Total	0.10	MG/KG	0.09	1.0
		Aluminum, Total	10.3	MG/KG	3.8	1.0
		Arsenic, Total	0.47 u	MG/KG	0.47	1.0
		Barium, Total	0.42	MG/KG	0.09	1.0
		Beryllium, Total	0.83	MG/KG	0.05	1.0
		Calcium, Total	61.6	MG/KG	3.8	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Cobalt, Total	0.19 u	MG/KG	0.19	1.0
		Chromium, Total	0.23	MG/KG	0.19	1.0
		Copper, Total	1.3	MG/KG	0.19	1.0
		Iron, Total	63.4	MG/KG	4.2	1.0
		Mercury, Total	0.05 u	MG/KG	0.05	5.0
		Potassium, Total	46.5 u	MG/KG	46.5	1.0
		Magnesium, Total	6.0	MG/KG	2.4	1.0
		Manganese, Total	0.63	MG/KG	0.04	1.0
		Sodium, Total	1010	MG/KG	1.9	1.0
		Nickel, Total	0.20	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	0.57 u	MG/KG	0.57	1.0
		Tin, Total	0.74	MG/KG	0.57	1.0
		Thallium, Total	0.57 u	MG/KG	0.57	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	10.4	MG/KG	0.57	1.0
		Zirconium, Total	4.7 u	MG/KG	4.7	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323

LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J17H42	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	7.0	MG/KG	3.7	1.0
		Arsenic, Total	0.46 u	MG/KG	0.46	1.0
		Barium, Total	18.9	MG/KG	0.09	1.0
		Beryllium, Total	1.0	MG/KG	0.05	1.0
		Calcium, Total	142	MG/KG	3.7	1.0
		Cadmium, Total	0.19	MG/KG	0.05	1.0
		Cobalt, Total	0.18 u	MG/KG	0.18	1.0
		Chromium, Total	14.1	MG/KG	0.18	1.0
		Copper, Total	3.1	MG/KG	0.18	1.0
		Iron, Total	408	MG/KG	4.1	1.0
		Mercury, Total	0.05 u	MG/KG	0.05	5.0
		Potassium, Total	45.2 u	MG/KG	45.2	1.0
		Magnesium, Total	15.3	MG/KG	2.3	1.0
		Manganese, Total	11.0	MG/KG	0.04	1.0
		Sodium, Total	343	MG/KG	1.8	1.0
		Nickel, Total	1.6	MG/KG	0.18	1.0
		Lead, Total	2.3	MG/KG	0.28	1.0
		Antimony, Total	0.28 u	MG/KG	0.28	1.0
		Selenium, Total	0.72	MG/KG	0.55	1.0
		Tin, Total	1.6	MG/KG	0.55	1.0
		Thallium, Total	0.55 u	MG/KG	0.55	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	32.1	MG/KG	0.55	1.0
		Zirconium, Total	9.4	MG/KG	4.6	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J17H43	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	3.9	MG/KG	3.7	1.0
		Arsenic, Total	0.47 u	MG/KG	0.47	1.0
		Barium, Total	0.45	MG/KG	0.09	1.0
		Beryllium, Total	1.5	MG/KG	0.05	1.0
		Calcium, Total	31.5	MG/KG	3.7	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Cobalt, Total	0.19 u	MG/KG	0.19	1.0
		Chromium, Total	0.24	MG/KG	0.19	1.0
		Copper, Total	0.42	MG/KG	0.19	1.0
		Iron, Total	117	MG/KG	4.2	1.0
		Mercury, Total	0.05 u	MG/KG	0.05	5.0
		Potassium, Total	46.1 u	MG/KG	46.1	1.0
		Magnesium, Total	9.0	MG/KG	2.3	1.0
		Manganese, Total	0.86	MG/KG	0.04	1.0
		Sodium, Total	536	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
		Tin, Total	0.85	MG/KG	0.56	1.0
		Thallium, Total	0.56 u	MG/KG	0.56	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	1.1	MG/KG	0.56	1.0
		Zirconium, Total	4.7 u	MG/KG	4.7	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	J17H44	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	3.7 u	MG/KG	3.7	1.0
		Arsenic, Total	0.46 u	MG/KG	0.46	1.0
		Barium, Total	97.7	MG/KG	0.09	1.0
		Beryllium, Total	3.3	MG/KG	0.05	1.0
		Calcium, Total	212	MG/KG	3.7	1.0
		Cadmium, Total	0.16	MG/KG	0.05	1.0
		Cobalt, Total	2.9	MG/KG	0.18	1.0
		Chromium, Total	70.6	MG/KG	0.18	1.0
		Copper, Total	6.6	MG/KG	0.18	1.0
		Iron, Total	1040	MG/KG	4.1	1.0
		Mercury, Total	0.05 u	MG/KG	0.05	5.0
		Potassium, Total	45.2 u	MG/KG	45.2	1.0
		Magnesium, Total	32.2	MG/KG	2.3	1.0
		Manganese, Total	7.3	MG/KG	0.04	1.0
		Sodium, Total	1110	MG/KG	1.8	1.0
		Nickel, Total	0.88	MG/KG	0.18	1.0
		Lead, Total	0.99	MG/KG	0.28	1.0
		Antimony, Total	0.28 u	MG/KG	0.28	1.0
		Selenium, Total	0.55 u	MG/KG	0.55	1.0
		Tin, Total	2.4	MG/KG	0.55	1.0
		Thallium, Total	0.55 u	MG/KG	0.55	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	11.7	MG/KG	0.55	1.0
		Zirconium, Total	13.0	MG/KG	4.6	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	J17H23	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	4.0	MG/KG	3.6	1.0
		Arsenic, Total	0.45 u	MG/KG	0.45	1.0
		Barium, Total	466	MG/KG	0.09	1.0
		Beryllium, Total	1.4	MG/KG	0.05	1.0
		Calcium, Total	98.3	MG/KG	3.6	1.0
		Cadmium, Total	0.35	MG/KG	0.05	1.0
		Cobalt, Total	0.18 u	MG/KG	0.18	1.0
		Chromium, Total	0.32	MG/KG	0.18	1.0
		Copper, Total	2.7	MG/KG	0.18	1.0
		Iron, Total	122	MG/KG	4.1	1.0
		Mercury, Total	0.05 u	MG/KG	0.05	5.0
		Potassium, Total	44.4 u	MG/KG	44.4	1.0
		Magnesium, Total	15.8	MG/KG	2.3	1.0
		Manganese, Total	1.2	MG/KG	0.04	1.0
		Sodium, Total	1070	MG/KG	1.8	1.0
		Nickel, Total	0.18 u	MG/KG	0.18	1.0
		Lead, Total	0.31	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
		Tin, Total	0.93	MG/KG	0.54	1.0
		Thallium, Total	0.54 u	MG/KG	0.54	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	81.3	MG/KG	0.54	1.0
		Zirconium, Total	4.5 u	MG/KG	4.5	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	J17H24	Silver, Total	0.1	u	MG/KG	0.1	1.0
		Aluminum, Total	26.3		MG/KG	3.8	1.0
		Arsenic, Total	0.48	u	MG/KG	0.48	1.0
		Barium, Total	179		MG/KG	0.1	1.0
		Beryllium, Total	0.89		MG/KG	0.05	1.0
		Calcium, Total	134		MG/KG	3.8	1.0
		Cadmium, Total	0.27		MG/KG	0.05	1.0
		Cobalt, Total	0.19	u	MG/KG	0.19	1.0
		Chromium, Total	18.5		MG/KG	0.19	1.0
		Copper, Total	1.3		MG/KG	0.19	1.0
		Iron, Total	273		MG/KG	4.3	1.0
		Mercury, Total	0.05		MG/KG	0.05	5.0
		Potassium, Total	46.9	u	MG/KG	46.9	1.0
		Magnesium, Total	11.7		MG/KG	2.4	1.0
		Manganese, Total	9.9		MG/KG	0.04	1.0
		Sodium, Total	120		MG/KG	1.9	1.0
		Nickel, Total	0.27		MG/KG	0.19	1.0
		Lead, Total	8.3		MG/KG	0.29	1.0
		Antimony, Total	0.29	u	MG/KG	0.29	1.0
		Selenium, Total	0.57	u	MG/KG	0.57	1.0
		Tin, Total	1.0		MG/KG	0.57	1.0
		Thallium, Total	0.57	u	MG/KG	0.57	1.0
		Vanadium, Total	0.13	u	MG/KG	0.13	1.0
		Zinc, Total	90.0		MG/KG	0.57	1.0
		Zirconium, Total	4.8	u	MG/KG	4.8	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-008	J17H25	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	11.0	MG/KG	3.6	1.0
		Arsenic, Total	0.53	MG/KG	0.45	1.0
		Barium, Total	27.2	MG/KG	0.09	1.0
		Beryllium, Total	0.37	MG/KG	0.05	1.0
		Calcium, Total	61.2	MG/KG	3.6	1.0
		Cadmium, Total	0.11	MG/KG	0.05	1.0
		Cobalt, Total	0.18 u	MG/KG	0.18	1.0
		Chromium, Total	0.25	MG/KG	0.18	1.0
		Copper, Total	0.89	MG/KG	0.18	1.0
		Iron, Total	171	MG/KG	4.1	1.0
		Mercury, Total	0.05 u	MG/KG	0.05	5.0
		Potassium, Total	44.4 u	MG/KG	44.4	1.0
		Magnesium, Total	11.1	MG/KG	2.3	1.0
		Manganese, Total	1.2	MG/KG	0.04	1.0
		Sodium, Total	216	MG/KG	1.8	1.0
		Nickel, Total	0.18 u	MG/KG	0.18	1.0
		Lead, Total	0.27 u	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
		Tin, Total	1.0	MG/KG	0.54	1.0
		Thallium, Total	0.54 u	MG/KG	0.54	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	14.1	MG/KG	0.54	1.0
		Zirconium, Total	4.5 u	MG/KG	4.5	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-009	J17H26	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	3.5 u	MG/KG	3.5	1.0
		Arsenic, Total	0.44 u	MG/KG	0.44	1.0
		Barium, Total	0.18	MG/KG	0.09	1.0
		Beryllium, Total	0.04 u	MG/KG	0.04	1.0
		Calcium, Total	36.1	MG/KG	3.5	1.0
		Cadmium, Total	0.04 u	MG/KG	0.04	1.0
		Cobalt, Total	0.40	MG/KG	0.18	1.0
		Chromium, Total	0.18 u	MG/KG	0.18	1.0
		Copper, Total	0.18 u	MG/KG	0.18	1.0
		Iron, Total	4.0 u	MG/KG	4.0	1.0
		Mercury, Total	0.008u	MG/KG	0.008	1.0
		Potassium, Total	43.6 u	MG/KG	43.6	1.0
		Magnesium, Total	7.7	MG/KG	2.2	1.0
		Manganese, Total	0.15	MG/KG	0.04	1.0
		Sodium, Total	36.2	MG/KG	1.8	1.0
		Nickel, Total	0.18 u	MG/KG	0.18	1.0
		Lead, Total	0.27 u	MG/KG	0.27	1.0
		Antimony, Total	0.27 u	MG/KG	0.27	1.0
		Selenium, Total	0.53 u	MG/KG	0.53	1.0
		Tin, Total	0.81	MG/KG	0.53	1.0
		Thallium, Total	0.53 u	MG/KG	0.53	1.0
		Vanadium, Total	0.12 u	MG/KG	0.12	1.0
		Zinc, Total	0.53 u	MG/KG	0.53	1.0
		Zirconium, Total	4.4 u	MG/KG	4.4	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-010	J17H27	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	3.7	MG/KG	3.7	1.0
		Arsenic, Total	0.46 u	MG/KG	0.46	1.0
		Barium, Total	0.45	MG/KG	0.09	1.0
		Beryllium, Total	7.4	MG/KG	0.05	1.0
		Calcium, Total	47.7	MG/KG	3.7	1.0
		Cadmium, Total	0.09	MG/KG	0.05	1.0
		Cobalt, Total	0.18 u	MG/KG	0.18	1.0
		Chromium, Total	0.22	MG/KG	0.18	1.0
		Copper, Total	0.69	MG/KG	0.18	1.0
		Iron, Total	54.8	MG/KG	4.1	1.0
		Mercury, Total	0.05 u	MG/KG	0.05	5.0
		Potassium, Total	45.2 u	MG/KG	45.2	1.0
		Magnesium, Total	7.9	MG/KG	2.3	1.0
		Manganese, Total	0.33	MG/KG	0.04	1.0
		Sodium, Total	1150	MG/KG	1.8	1.0
		Nickel, Total	0.23	MG/KG	0.18	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	0.55 u	MG/KG	0.55	1.0
		Tin, Total	0.83	MG/KG	0.55	1.0
		Thallium, Total	0.55 u	MG/KG	0.55	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	5.3	MG/KG	0.55	1.0
		Zirconium, Total	23.9	MG/KG	4.6	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-011	J17H28	Silver, Total	0.1	u	MG/KG	0.1	1.0
		Aluminum, Total	5.3		MG/KG	3.8	1.0
		Arsenic, Total	0.48	u	MG/KG	0.48	1.0
		Barium, Total	289		MG/KG	0.1	1.0
		Beryllium, Total	1.2		MG/KG	0.05	1.0
		Calcium, Total	84.0		MG/KG	3.8	1.0
		Cadmium, Total	0.26		MG/KG	0.05	1.0
		Cobalt, Total	0.70		MG/KG	0.19	1.0
		Chromium, Total	35.8		MG/KG	0.19	1.0
		Copper, Total	3.4		MG/KG	0.19	1.0
		Iron, Total	800		MG/KG	4.3	1.0
		Mercury, Total	0.05	u	MG/KG	0.05	5.0
		Potassium, Total	46.9	u	MG/KG	46.9	1.0
		Magnesium, Total	19.1		MG/KG	2.4	1.0
		Manganese, Total	2.8		MG/KG	0.04	1.0
		Sodium, Total	1770		MG/KG	1.9	1.0
		Nickel, Total	0.26		MG/KG	0.19	1.0
		Lead, Total	0.80		MG/KG	0.29	1.0
		Antimony, Total	0.29	u	MG/KG	0.29	1.0
		Selenium, Total	0.57	u	MG/KG	0.57	1.0
		Tin, Total	0.89		MG/KG	0.57	1.0
		Thallium, Total	0.57	u	MG/KG	0.57	1.0
		Vanadium, Total	0.13	u	MG/KG	0.13	1.0
		Zinc, Total	74.3		MG/KG	0.57	1.0
		Zirconium, Total	4.8	u	MG/KG	4.8	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-012	J17H29	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	15.1	MG/KG	3.8	1.0
		Arsenic, Total	0.47 u	MG/KG	0.47	1.0
		Barium, Total	0.80	MG/KG	0.09	1.0
		Beryllium, Total	1.2	MG/KG	0.05	1.0
		Calcium, Total	181	MG/KG	3.8	1.0
		Cadmium, Total	0.14	MG/KG	0.05	1.0
		Cobalt, Total	0.84	MG/KG	0.19	1.0
		Chromium, Total	0.30	MG/KG	0.19	1.0
		Copper, Total	2.7	MG/KG	0.19	1.0
		Iron, Total	2070	MG/KG	4.2	1.0
		Mercury, Total	0.05 u	MG/KG	0.05	5.0
		Potassium, Total	46.5 u	MG/KG	46.5	1.0
		Magnesium, Total	21.7	MG/KG	2.4	1.0
		Manganese, Total	9.2	MG/KG	0.04	1.0
		Sodium, Total	1910	MG/KG	1.9	1.0
		Nickel, Total	0.39	MG/KG	0.19	1.0
		Lead, Total	0.54	MG/KG	0.28	1.0
		Antimony, Total	0.28 u	MG/KG	0.28	1.0
		Selenium, Total	0.57 u	MG/KG	0.57	1.0
		Tin, Total	0.93	MG/KG	0.57	1.0
		Thallium, Total	0.57 u	MG/KG	0.57	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	5.7	MG/KG	0.57	1.0
		Zirconium, Total	4.7 u	MG/KG	4.7	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-013	J17H30	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	3.7 u	MG/KG	3.7	1.0
		Arsenic, Total	0.46 u	MG/KG	0.46	1.0
		Barium, Total	0.24	MG/KG	0.09	1.0
		Beryllium, Total	0.82	MG/KG	0.05	1.0
		Calcium, Total	36.6	MG/KG	3.7	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	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	0.70	MG/KG	0.18	1.0
		Iron, Total	22.2	MG/KG	4.1	1.0
		Mercury, Total	0.05 u	MG/KG	0.05	5.0
		Potassium, Total	45.2 u	MG/KG	45.2	1.0
		Magnesium, Total	7.2	MG/KG	2.3	1.0
		Manganese, Total	0.19	MG/KG	0.04	1.0
		Sodium, Total	111	MG/KG	1.8	1.0
		Nickel, Total	0.18 u	MG/KG	0.18	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	0.55 u	MG/KG	0.55	1.0
		Tin, Total	0.61	MG/KG	0.55	1.0
		Thallium, Total	0.55 u	MG/KG	0.55	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	2.4	MG/KG	0.55	1.0
		Zirconium, Total	4.6 u	MG/KG	4.6	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-014	J17H31	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
		Barium, Total	0.31	MG/KG	0.09	1.0
		Beryllium, Total	0.45	MG/KG	0.05	1.0
		Calcium, Total	35.1	MG/KG	3.7	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	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	0.62	MG/KG	0.19	1.0
		Iron, Total	12.1	MG/KG	4.2	1.0
		Mercury, Total	0.04 u	MG/KG	0.04	5.0
		Potassium, Total	46.1 u	MG/KG	46.1	1.0
		Magnesium, Total	8.8	MG/KG	2.3	1.0
		Manganese, Total	0.10	MG/KG	0.04	1.0
		Sodium, Total	471	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
		Tin, Total	0.74	MG/KG	0.56	1.0
		Thallium, Total	0.56 u	MG/KG	0.56	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	1.9	MG/KG	0.56	1.0
		Zirconium, Total	4.7 u	MG/KG	4.7	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-015	J17H32	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	3.8 u	MG/KG	3.8	1.0
		Arsenic, Total	0.47 u	MG/KG	0.47	1.0
		Barium, Total	0.43	MG/KG	0.09	1.0
		Beryllium, Total	71.8	MG/KG	0.05	1.0
		Calcium, Total	40.5	MG/KG	3.8	1.0
		Cadmium, Total	0.13	MG/KG	0.05	1.0
		Cobalt, Total	0.19 u	MG/KG	0.19	1.0
		Chromium, Total	0.19	MG/KG	0.19	1.0
		Copper, Total	0.91	MG/KG	0.19	1.0
		Iron, Total	51.7	MG/KG	4.2	1.0
		Mercury, Total	0.04 u	MG/KG	0.04	5.0
		Potassium, Total	46.5 u	MG/KG	46.5	1.0
		Magnesium, Total	7.4	MG/KG	2.4	1.0
		Manganese, Total	0.28	MG/KG	0.04	1.0
		Sodium, Total	2810	MG/KG	1.9	1.0
		Nickel, Total	0.30	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	0.57 u	MG/KG	0.57	1.0
		Tin, Total	0.57 u	MG/KG	0.57	1.0
		Thallium, Total	0.57 u	MG/KG	0.57	1.0
		Vanadium, Total	0.13 u	MG/KG	0.13	1.0
		Zinc, Total	7.7	MG/KG	0.57	1.0
		Zirconium, Total	252	MG/KG	4.7	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08L0335-MB1	Silver, Total	0.10 u	MG/KG	0.10	1.0
		Aluminum, Total	4.0 u	MG/KG	4.0	1.0
		Arsenic, Total	0.50 u	MG/KG	0.50	1.0
		Barium, Total	0.13	MG/KG	0.10	1.0
		Beryllium, Total	0.05 u	MG/KG	0.05	1.0
		Calcium, Total	5.7	MG/KG	4.0	1.0
		Cadmium, Total	0.05 u	MG/KG	0.05	1.0
		Cobalt, Total	0.20 u	MG/KG	0.20	1.0
		Chromium, Total	0.20 u	MG/KG	0.20	1.0
		Copper, Total	0.20 u	MG/KG	0.20	1.0
		Iron, Total	4.5 u	MG/KG	4.5	1.0
		Potassium, Total	49.3 u	MG/KG	49.3	1.0
		Magnesium, Total	2.5 u	MG/KG	2.5	1.0
		Manganese, Total	0.05	MG/KG	0.04	1.0
		Sodium, Total	19.4	MG/KG	2.0	1.0
		Nickel, Total	0.20 u	MG/KG	0.20	1.0
		Lead, Total	0.30 u	MG/KG	0.30	1.0
		Antimony, Total	0.30 u	MG/KG	0.30	1.0
		Selenium, Total	0.60 u	MG/KG	0.60	1.0
		Tin, Total	0.70	MG/KG	0.60	1.0
		Thallium, Total	0.60 u	MG/KG	0.60	1.0
		Vanadium, Total	0.14 u	MG/KG	0.14	1.0
		Zinc, Total	0.60 u	MG/KG	0.60	1.0
		Zirconium, Total	5.0 u	MG/KG	5.0	1.0
BLANK1	08C0161-MB1	Mercury, Total	0.01 u	MG/KG	0.01	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	J17H40	Silver, Total	4.7	0.09u	4.9	95.9	1.0
		Aluminum, Total	185	6.0	194	92.0	1.0
		Arsenic, Total	179	0.47u	194	92.3	1.0
		Barium, Total	186	0.32	194	95.7	1.0
		Beryllium, Total	9.7	5.0	4.9	95.9	1.0
		Calcium, Total	2320	31.2	2430	94.1	1.0
		Cadmium, Total	4.6	0.11	4.9	91.7	1.0
		Cobalt, Total	45.5	0.19u	48.6	93.6	1.0
		Chromium, Total	18.9	0.28	19.4	96.0	1.0
		Copper, Total	24.3	0.69	24.3	97.1	1.0
		Iron, Total	228	93.8	97.1	138.1	1.0
		Mercury, Total	1.7	0.05u	1.6	106.9	5.0
		Potassium, Total	2230	46.5 u	2430	91.9	1.0
		Magnesium, Total	2230	7.0	2430	91.7	1.0
		Manganese, Total	47.0	0.62	48.6	95.4	1.0
		Sodium, Total	5570	3220	2430	96.8	1.0
		Nickel, Total	45.4	0.30	48.6	92.8	1.0
		Lead, Total	45.1	0.29	48.6	92.2	1.0
		Antimony, Total	43.0	0.28u	48.6	88.5	1.0
		Selenium, Total	156	0.57u	194	80.5	1.0
		Tin, Total	89.5	0.57u	97.1	92.2	1.0
		Thallium, Total	181	0.57u	194	93.2	1.0
		Vanadium, Total	45.7	0.15	48.6	93.7	1.0
		Zinc, Total	76.8	30.5	48.6	95.3	1.0
		Zirconium, Total	487	15.5	486	97.0	1.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	J17H40	Silver, Total	0.09u	0.1 u	NC	1.0
		Aluminum, Total	6.0	4.0	40.0	1.0
		Arsenic, Total	0.47u	0.49u	NC	1.0
		Barium, Total	0.32	0.42	27.1	1.0
		Beryllium, Total	5.0	5.3	5.8	1.0
		Calcium, Total	31.2	31.0	0.64	1.0
		Cadmium, Total	0.11	0.11	8.2	1.0
		Cobalt, Total	0.19u	0.19u	NC	1.0
		Chromium, Total	0.28	0.30	5.2	1.0
		Copper, Total	0.69	0.70	1.7	1.0
		Iron, Total	93.8	93.8	0.00	1.0
		Mercury, Total	0.05u	0.05u	NC	5.0
		Potassium, Total	46.5 u	47.8 u	NC	1.0
		Magnesium, Total	7.0	5.4	25.8	1.0
		Manganese, Total	0.62	0.57	7.5	1.0
		Sodium, Total	3220	3220	0.23	1.0
		Nickel, Total	0.30	0.20	40.4	1.0
		Lead, Total	0.29	0.29u	~~NC~~ 200	1.0
		Antimony, Total	0.28u	0.29u	NC	1.0
		Selenium, Total	0.57u	0.58u	NC	1.0
		Tin, Total	0.57u	0.88	~~NC~~ 200	1.0
		Thallium, Total	0.57u	0.58u	NC	1.0
		Vanadium, Total	0.15	0.14u	~~NC~~ 200	1.0
		Zinc, Total	30.5	31.2	2.3	1.0
		Zirconium, Total	15.5	17.9	14.4	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 09/17/08

CLIENT: WC-HANFORD RC-088 K1323 LVL LOT #: 0809L085

WORK ORDER: 60049-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	08L0335-LC1	Silver, LCS	47.1	50.0	MG/KG	94.2
		Aluminum, LCS	464	500	MG/KG	92.9
		Arsenic, LCS	912	1000	MG/KG	91.2
		Barium, LCS	464	500	MG/KG	92.9
		Beryllium, LCS	23.4	25.0	MG/KG	93.6
		Calcium, LCS	2340	2500	MG/KG	93.6
		Cadmium, LCS	22.9	25.0	MG/KG	91.6
		Cobalt, LCS	231	250	MG/KG	92.3
		Chromium, LCS	47.1	50.0	MG/KG	94.2
		Copper, LCS	118	125	MG/KG	94.1
		Iron, LCS	463	500	MG/KG	92.5
		Potassium, LCS	2230	2500	MG/KG	89.1
		Magnesium, LCS	2280	2500	MG/KG	91.0
		Manganese, LCS	70.4	75.0	MG/KG	93.9
		Sodium, LCS	2280	2500	MG/KG	91.3
		Nickel, LCS	186	200	MG/KG	93.0
		Lead, LCS	232	250	MG/KG	93.0
		Antimony, LCS	273	300	MG/KG	91.0
		Selenium, LCS	892	1000	MG/KG	89.2
		Tin, LCS	460	500	MG/KG	91.9
		Thallium, LCS	925	1000	MG/KG	92.5
		Vanadium, LCS	230	250	MG/KG	92.2
		Zinc, LCS	93.6	100	MG/KG	93.6
		Zirconium, LCS	460	500	MG/KG	91.9
LCS1	08C0161-LC1	Mercury, LCS	4.7	4.7	MG/KG	100.6

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0335
Date/Time Initiated: 9/15/08 1330
Date/Time Completed: 9/15/08 2145
Analyst(s): MW
Matrix: Soil Water Other: oil
Instr. Type: AA ICP
Parameters: HSL+Sn, Zr

Digested / Undigested (circle one)
Balance #: B20
Balance Cal Verif: Y NA
Hot Plate Temp: 91°

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

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

TW

COC Batch # 9L	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/So/TC	Texture	Color/Appearance	Artifact	Turb
08084076-001		1.01gm	100ml	<2	TO	liquid	brown oil		RAM
W.E.(x2) 001R		1.07gm							
MW 9/15/08 001S	1.0 ml *	1.06gm							
002		1.08gm							
003		1.02gm							
004		1.16gm					clear liquid		
005		1.13gm							
08094085-001		1.06gm					brown oil		RAM
001R		1.03gm							
001S	1.0 ml *	1.03gm							
002		1.06gm							
003		1.09gm							
004		1.07gm							
005		1.09gm							
006		1.11gm					tan milky liquid		
007		1.05gm					brown oil		
008		1.11gm					light brown oil		
009		1.13gm					clear liquid		
010		1.09gm					tan milky liquid		RAM
011		1.05gm					gray/brown milky liquid		RAM
012		1.06gm					tan milky liquid		
013		1.09gm					tan liquid		
014		1.07gm					tan milky liquid		RAM
015		1.06gm							

Spiking IDs:
MS #: 8100-04-01
02
03
6072-78-07
LCS #: 08
09
10
11

Reagent IDs:
HNO_3 G07057
HCL G26054
H_2O_2 G15A18
1:1 HNO_3 9789-053-06
1:1 HCL

File ID#: IC033502 IC033501
LIMS Transfer: Y N updated
Data Review By/Date: 9/17/08

* also 0.5 ml 6072-079-13 (Zr)

SAMPLE DIGESTION RECORD

SOP: L-SPI-3020 Rev. 00

Digestion Batch #: 08L0335
Date/Time Initiated:
Date/Time Completed:
Analyst(s):
Matrix: Soil Water Other: See page 059
Instr. Type: AA ICP
Parameters:

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

Method: SW (circle)

	3005A	DW	200.7 (1994)
	3010A		200.9
	3015		3113B
	3020A		
	7060A (As/Se)	MCAWW	200.7 (1982)
	7760A (Ag)		200 (AA)
			206.2 (As/Se)
	3050B		
	3051	SM	3030C (NC)
CLP	ILMO3.0	Other	
	ILMO4.0		

TW

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
08L0335-MB1		1.0gm	100ml	<2	TO	coarse	boiling chips		
LC1	1.0ml	1.0gm	I	I		I	I		

TW 9/15/08

Spiking IDs:
MS #: See page 059
LCS #: See page 059

Reagent IDs:
HNO_3
HCL
H_2O_2
1:1 HNO_3
1:1 HCL
See page 059

File ID#: IC033501
LIMS Transfer: (Y) N updated
Data Review By/Date: 9/12/08

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corporated

MERCURY PREPARATION

Logbook # 498

alyst: TEB
te 9/15/08
art Time/Temp: 1815 / 94°
d Time/Temp: 1845 / 98°

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

Prep Batch: 08C0161
Worksheet: HG091401
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? __ Yes N/A 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.

LvL I 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	H3			10mL	50mL	
0.2µg/L	8	0.100				
1.0	3VG	0.500				
2.0	5H	1.000				
5.0	3C	2.500				
10.0	41	5.000				
ICV	RU	0.125	2.5			
CCV	194	0.250	5.0			
ICB/CCB	C4D					9.50L
MB1	711			0.30		100.00
LC1	95	*	*	0.33		
0809L085-001	PF			0.31		R
001R	S			0.32		
001S	997	0.050	10.0	0.31		
002	LT			0.31		
003	L7			0.30		
004	OLN			0.31		
005	183			0.31		
006	B14			0.31		
007	P5			0.32		
008	PA			0.31		
009	LV			0.39		
010	K35			0.33		R
011	40			0.31		
012	500			0.31		
013	522			0.33		
014	NJ			0.35		

Standard:	ID	Prep Date/Time
ICAL/MS	R1 60772-78-140	9/15/08 1235
ICV/CCV/LCS	US 60772-78-15A	↓

Reviewed By/Date: [signature] 9/16

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

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MERCURY PREPARATION

Logbook # 498

Analyst: EA
Date 9/15/08
Start Time/Temp: See page 022
End Time/Temp:

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

Prep Batch: 08C0161
Worksheet: HG091601
SOP No. ME-HgCVAA, Rev. 02

pH < 2 for Liquids? __ Yes N/A 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.
0809L085-015	CB2			0.34	50mL	R 100.0
0809L105-001	X3			0.33		
001R	JC			0.32		
001S	B32	0.500	1.0	0.33		

EA 9/15/08

Standard:	ID	Prep Date/Time
CAL/MS		
CV/CCV/LCS	See page 022	

Reviewed By/Date: [signature] 9/16/

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 #:

000000041

nville Laboratory Use Only

08096085

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

VLI

000000042

nt WC HANFORD RC-088

Final Proj. Sampling Date

ject# 60049-001-001-0001-00

ject Contact/Phone#

nville Laboratory Project Manager O. Johnson

SW846 Del STD TAT 7 days

e Rec'd 9-10-08 Date Due 9-17-08

		A	B												
Refrigerator #		6	3												
#/Type Container	Liquid	1G	1G												
	Solid														
Volume		1/2	250												
Preservatives		—													
ANALYSES REQUESTED		ORGANIC							INORG						
		VOA	BNA	Pest/PCB	Herb				TCP Metal	Hg	CN	RADIOISOTOPES			
		Lionville Laboratory Use Only													
		0624H	0625H	OPCB					Met①		IFGN				

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	J17H40			oil	9-5-08	0950	X	X	X				X		X				
	002	41					1005	X	X	X				X		X				
	003	42					1250	X	X	X				X		X				
	004	43					1305	X	X	X				X		X				
	005	44					1320	X	X	X				X		X				
	006	23				9-7-08	1000	X	X	X				X		X				
	007	24					1015	X	X	X				X		X				
	008	25					1240	X	X	X				X		X				
	009	26					1345	X	X	X				X		X				
	010	27					1405	X	X	X				X		X				

ecial Instructions: Run matrix QC

met① = HSL + Sn, Zr

Special Instructions:

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

Relinquished by	Received by	Date	Time
		9/10/08	0935

Relinquished by	Received by	Date	Time

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

onville Laboratory Use Only

28090085

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

ent W.C. HANFORD

Final Proj. Sampling Date

ject#

ject Contact/Phone# Sue Kelly

nville Laboratory Project Manager O.T.

Del TAT

te Rec'd Date Due

		A	B													
Refrigerator #		6	3													
#/Type Container	Liquid	1G	1G													
	Solid															
Volume		4L	250													
Preservatives		—	—													
ANALYSES REQUESTED		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb				RCP Metal	CN	Lab Use Only					

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	0624H	0625H	OPCB				Metals		IIGN				
011	J17H28			oil	9-30-08	1440	X	X	X				X		X				
012	29					1450	X	X	X				X		X				
013	30					1500	X	X	X				X		X				
014	31					1530	X	X	X				X		X				
015	32					1540	X	X	X				X		X				
016	33 IN 9-10-08																		
017	34																		

Special Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	9/10/08	0932

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000043

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-075	Page 1 of 1

ollector S. Deeter	Company Contact Joan Kessner Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code<| Data Turnaround ~~15~~ 7 Days JSD 9/5/08
roject Designation 618-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums)	SAF No. RC-088	
e Chest No. EKC-99-056	Field Logbook No. EL-1395-13 COA RG61878500	Method of Shipment FedEx	
hipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No.	Bill of Lading/Air Bill No. See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None					
Type of Container	aG	aG	aG	aG	aG	P					
No. of Container(s)	1	1	0	0	0	1					
Volume	40mL	250mL	125mL	125mL	60mL	500mL					
SAMPLE ANALYSIS	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. 9/5/08				REF #	Drum #
Sample No. / Matrix * / Sample Date / Sample Time											
17H40 / OTHER / 9/5/08 / 0950	X	X	X	X	X	X				J17H70	7039
17H41 / OTHER / 9/5/08 / 1005	X	X	X	X	X					J17H71	7042
17H42 / OTHER / 9/5/08 / 1250	X	X	X	X	X					J17H72	7038
17H43 / OTHER / 9/5/08 / 1305	X	X	X	X	X					J17H73	7161
17H44 / OTHER / 9/5/08 / 1320	X	X	X	X	X					J17H74	7037

CHAIN OF POSSESSION	Sign/Print Names		
elinquished By/Removed From	Date/Time 1630	Received By/Stored In	Date/Time 1630
SDEETER	9-5-08	SPDeBruine TRDeBruine	9/5/08
elinquished By/Removed From	Date/Time 1700	Received By/Stored In	Date/Time 1700
SPDeBruine TRDeBruine	9/5/08	1060 IB	9/5/08
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 0830
1060/IB 0830 SEP 09 2008		MSHankook	SEP 09 2008
elinquished By/Removed From WCH	Date/Time 0830	Received By/Stored In	Date/Time
MSHankook	SEP 09 2008	FedEx	
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
FedEx	9-10-08 0935		9-10-08 0935
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

KMW

000000044

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-071	Page 1 of 1

Collector: S. Deeter	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: ~~15~~ Days 7 RTC 9/3/08		
Project Designation: 618-7 Burial Ground - Other	Sampling Location: 618-7 Burial Ground (drums)		SAF No.: RC-088
Ice Chest No.: AFS-06-003	Field Logbook No.: EL-1395-13	COA: RG61878500	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080346		Bill of Lading/Air Bill No.: See aspc

POSSIBLE SAMPLE ~~HAZARDS~~/REMARKS

Potential Radioactive contamination, potential beryllium contamination

Special Handling and/or Storage

None

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C				
Type of Container	aG	aG	aG	aG	P	aG				
No. of Container(s)	1	0	0	0	1	1				
Volume	~~250~~mL 500 RTC	125mL	125mL	60mL	500mL	40mL				
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. RTC 9/3/08	VOA 8270A				PIN #

Sample No.	Matrix *	Sample Date	Sample Time										
~~17H20~~	~~OTHER~~												
~~17H21~~	~~OTHER~~												
~~17H22~~	~~OTHER~~												
17H23	OTHER	9/3/08	1000	X	X	X	X		X				7033
17H24	OTHER	9/3/08	1015	X	X	X	X		X				7007

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: S. DEETER	Date/Time: 1800 9-3-08	Received By/Stored In: RT Coffman / RT Coffman
Relinquished By/Removed From: RT Coffman / RT Coffman	Date/Time: 1900 9/3/08	Received By/Stored In: Reefer #1B, 1060
Relinquished By/Removed From: 1060/1B	Date/Time: 0815 SEP 08 2008	Received By/Stored In: MStankovich
Relinquished By/Removed From: MStankovich	Date/Time: 0815 SEP 08 2008	Received By/Stored In: Fed Ex
Relinquished By/Removed From: Fed Ex	Date/Time: 9-10-08 0935	Received By/Stored In: 9-10-08 0935
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

000000045

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-072	Page 1 of 1

llector S. Deeter	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code	Data Turnaround ~~15~~ 7 Days
oject Designation 618-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums)		SAF No. RC-088		
e Chest No. MFS-06-003	Field Logbook No. EL-1395-13	COA RG61878500	Method of Shipment FedEx	RTC 9/3/08	
ipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080346		Bill of Lading/Air Bill No. See OSPC		

OSSIBLE SAMPLE HAZARDS/REMARKS

otential Radioactive contamination, potential beryllium ontamination

pecial Handling and/or Storage

one

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C					
Type of Container	aG	aG	aG	aG	P	2G					
No. of Container(s)	1	0	0	0	1	1					
Volume	250mL	125mL	125mL	60mL	500mL	40mL					
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. 9/3/08 RC	VOA 8270A					PIN #
Sample No.	Matrix *	Sample Date	Sample Time								
17H25	OTHER	9/3/08	1240	X	X	X	X		X		6960
17H26	OTHER		1345	X	X	X	X		X		7144
17H27	OTHER		1405	X	X	X	X		X		7140
17H28	OTHER		1440	X	X	X	X		X		7034
17H29	OTHER	9/3/08	1450	X	X	X	X		X		7035

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
S DEETER	9-3-08 1700	RT COFFMAN / RT Coffman	9/3/08 1700
RT COFFMAN / RT Coffman	9/3/08 1900	REBER I.B. 1060	9/3/08 1900
1060/10	SEP 0 8 2008 0915	MSTANBOURY	SEP 0 8 2008 0915
MSTANBOURY	SEP 0 8 2008 0915	FedEx	
FedEx	9-10-08 0935		9-30-08 0935

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) (Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc); ICP Metals - 6010A (Add-on) (Arsenic, Lead, Selenium, Thallium, Tin, Zirconium); Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

000000046

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-073	Page 1 of 1
·llector S. Deeter	Company Contact Joan Kessner / Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code / Data Turnaround 15 Days
oject Designation 618-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums)	SAF No. RC-088	
: Chest No. AFS-06-003	Field Logbook No. EL-1395-13 / COA RG61878500	Method of Shipment FedEx	
ıipped To EBERLINE SERVICES/LIONVILLE	Offsite Property No. A080346	Bill of Lading/Air Bill No. See ospc	

OSSIBLE SAMPLE HAZARDS/REMARKS

'otential Radioactive contamination, potential beryllium ontamination

:pecial Handling and/or Storage

lone

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4°C					
Type of Container	aG	aG	aG	aG	P	aG					
No. of Container(s)	1	0	0	0	1	1					
Volume	250mL	125mL	125mL	60mL	500mL	40mL					
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions	VOA 8270A					PIN #

Sample No.	Matrix *	Sample Date	Sample Time										
17H30	OTHER	9/3/08	1500	X	X	X	X		X				7045
17H31	OTHER	9/3/08	1530	X	X	X	X		X				7142
17H32	OTHER	9/3/08	1540	X	X	X	X		X				7191
17H33	OTHER												
17H34	OTHER												

CHAIN OF POSSESSION	Sign/Print Names	
elinquished By/Removed From	Date/Time 1700 9-3-08	Received By/Stored In / Date/Time 1700 9/3/08
elinquished By/Removed From	Date/Time 1900 9/3/08	Received By/Stored In REFER #1B, 1060 / Date/Time 1900 9/3/08
elinquished By/Removed From 1060/1B	Date/Time 0915 SEP 0 8 2008	Received By/Stored In MSlankoud, SEP 0 8 2008 / Date/Time 0915
elinquished By/Removed From cooler MSlankoud	Date/Time 0915 SEP 0 8 2008	Received By/Stored In FedEx / Date/Time
elinquished By/Removed From FedEx	Date/Time 9-10-08 0935	Received By/Stored In / Date/Time 9-10-08 0935
elinquished By/Removed From	Date/Time	Received By/Stored In / Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) (Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc); ICP Metals - 6010A (Add-on) (Arsenic, Lead, Selenium, Thallium, Tin, Zirconium); Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

000000047

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: W.C. Hanford

Project/SAF/SOW/Release #: RC-088

Date: 9-10-08

LvLI Batch #: 08090085

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7900 8019 1057 7905 7304 2908
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 2.5 2.2	°C	Cooler # ERC-99-056 AFS-06-003
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
OCT 2008

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17H40						
IGNITABILITY	001	OI	08LFPA29	09/05/08	09/11/08	09/11/08
J17H41						
IGNITABILITY	002	OI	08LFPA29	09/05/08	09/11/08	09/11/08
J17H42						
IGNITABILITY	003	OI	08LFPA29	09/05/08	09/11/08	09/11/08
J17H43						
IGNITABILITY	004	OI	08LFPA29	09/05/08	09/11/08	09/11/08
J17H44						
IGNITABILITY	005	OI	08LFPA29	09/05/08	09/11/08	09/11/08
J17H23						
IGNITABILITY	006	OI	08LFPA29	09/03/08	09/11/08	09/11/08
J17H24						
IGNITABILITY	007	OI	08LFPA29	09/03/08	09/11/08	09/11/08
J17H25						
IGNITABILITY	008	OI	08LFP030	09/03/08	09/12/08	09/12/08
J17H26						
IGNITABILITY	009	OI	08LFP030	09/03/08	09/12/08	09/12/08
J17H27						
IGNITABILITY	010	OI	08LFP032	09/03/08	09/19/08	09/19/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
WC-HANFORD RC-088 K1323

DATE RECEIVED: 09/10/08 LVL LOT # :0809L085

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J17H28						
IGNITABILITY	011	OI	08LFP030	09/03/08	09/12/08	09/12/08
J17H29						
IGNITABILITY	012	OI	08LFP030	09/03/08	09/12/08	09/12/08
J17H30						
IGNITABILITY	013	OI	08LFP030	09/03/08	09/12/08	09/12/08
J17H31						
IGNITABILITY	014	OI	08LFP030	09/03/08	09/12/08	09/12/08
J17H32						
IGNITABILITY	015	OI	08LFP030	09/03/08	09/12/08	09/12/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: WC-HANFORD RC-088 K1323
LVL#: 0809L085

W.O.#: 60049-001-001-0001-00
Date Received: 09-10-08

INORGANIC NARRATIVE

1. This narrative covers the analysis of 15 liquid samples.

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

3. Sample holding time as required by the method and/or contract was met.

4. The results presented in this report are derived from samples that met the LVL sample acceptance policy.

5. The Laboratory Control Sample (LCS) was within the method criteria.

6. Insufficient sample volume was available so as to perform replicate analysis.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory

10/7/08
Date

njp\i09-085

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 13 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**

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.

Inorganic Data Summary Report
Physical Testing Observation

Client: WC-HANFORD RC-088 K1323
LVL#: 0809L085

W.O.#: 60049-001-001-0001-00
Date Received: 09-10-08

Analyte:	**Observation:**
Ignitability	Samples J17H40, J17H41, J17H42, J17H43, J17H44, J17H23, J17H24, J17H25, J17H26, J17H27, J17H28, J17H29, J17H30, J17H31, and J17H32 did not ignite. The samples were heated to approximately 210°F. p-Xylene was used to determined the accuracy of the ignitability apparatus. The p-Xylene will ignite at 81°F +/- 1°F. For this test, the p-Xylene ignited at 80°F.

njp\i08-085.pt2

nville Laboratory Use Only

08091085

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

VLI

0000000007

nt WC HANFORD KC-088

. Final Proj. Sampling Date

ject# 60049-001-001-0001-00

ject Contact/Phone#

nville Laboratory Project Manager O. Johnson

SW846 Del STD TAT 7 days

te Rec'd 9-10-08 Date Due 9-17-08

		A	B												
Refrigerator #		6	3												
#/Type Container	Liquid	1G	1G												
	Solid														
Volume		40	250												
Preservatives		—													
ANALYSES REQUESTED →		ORGANIC							INORG						
		VOA	BNA	Pest/PCB	Herb				TCP Metal	Hg	CN	TAL/TAL			

Lionville Laboratory Use Only

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	06244	06254	OPCB					Met①		ITGN				
	001	J17H40			oil	9-5-08	0950	X	X	X					X		X				
	002	41					1005	X	X	X					X		X				
	003	42					1250	X	X	X					X		X				
	004	43					1305	X	X	X					X		X				
	005	44					1320	X	X	X					X		X				
	006	23				9-3-08	1000	X	X	X					X		X				
	007	24					1015	X	X	X					X		X				
	008	25					1240	X	X	X					X		X				
	009	26					1345	X	X	X					X		X				
	010	27					1405	X	X	X					X		X				

Special Instructions: Run matrix QC

met① = HSL + Sn, Zr

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	9/10/08	0935

Relinquished by	Received by	Date	Time

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

nville Laboratory Use Only

28096085

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

nt W.C. HANFORD

. Final Proj. Sampling Date Sept 1

ject#

ject Contact/Phone# S. O. T.

nville Laboratory Project Manager

Del TAT

e Rec'd Date Due

		A	B
Refrigerator #		6	3
#/Type Container	Liquid	16	16
	Solid		
Volume		40	250
Preservatives		—	—

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA (0624H)	BNA (0625H)	Pest/PCB (OPCB)	Herb				INORG RCP Metal	Metal Hg	CN	TIGN					
011	J17H28			oil	9-30-08	1440	X	X	X					X			X					
012	29					1450	X	X	X					X			X					
013	30					1500	X	X	X					X			X					
014	31					1530	X	X	X					X			X					
015	32					1540	X	X	X					X			X					
016	33 W9-100X																					
017	34																					

Lionville Laboratory Use Only

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

ecial Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
		9/10/08	0932

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-088-075	Page 1 of 1

ollector S. Deeter	Company Contact Joan Kessner Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code Data Turnaround ~~15~~ 7 Days SBD 9/5/08
oject Designation 618-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums)	SAF No. RC-088	
e Chest No. EKC-99-056	Field Logbook No. EL-1395-13 COA RG61878500	Method of Shipment FedEx	
ipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No.	Bill of Lading/Air Bill No. See OSPC	

OSSIBLE SAMPLE HAZARDS/REMARKS

otential Radioactive contamination, potential beryllium ontamination

pecial Handling and/or Storage

one

Preservation	Cool 4C	Cool 4C	Cool 4C	None	None	None					
Type of Container	aG	aG	aG	aG	aG	P					
No. of Container(s)	1	1	0	0	0	1					
Volume	40mL	250mL	125mL	125mL	60mL	500mL					
SAMPLE ANALYSIS	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. 9/5/08				RCF #	Drum #
Sample No. / Matrix * / Sample Date / Sample Time											
7H40 / OTHER / 9/5/08 / 0950	X	X	X	X	X					J17H70	7039
7H41 / OTHER / 9/5/08 / 1005	X	X	X	X	X					J17H71	7042
7H42 / OTHER / 9/5/08 / 1250	X	X	X	X	X					J17H72	7038
7H43 / OTHER / 9/5/08 / 1305	X	X	X	X	X					J17H73	7161
7H44 / OTHER / 9/5/08 / 1320	X	X	X	X	X					J17H74	7037

CHAIN OF POSSESSION	Sign/Print Names		
linquished By/Removed From	Date/Time 1630 9-5-08	Received By/Stored In	Date/Time 1630 9/5/08
linquished By/Removed From	Date/Time 1700 9/5/08	Received By/Stored In	Date/Time 1700 9/5/08
linquished By/Removed From	Date/Time 0830 SEP 0 9 2008	Received By/Stored In	Date/Time 0830 SEP 0 9 2008
linquished By/Removed From	Date/Time 0830 SEP 0 9 2008	Received By/Stored In Fed Ex	Date/Time
linquished By/Removed From	Date/Time 9-10-08 0935	Received By/Stored In	Date/Time 9-10-08 0935
linquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 -- Total Sr

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

ABORATORY SECTION	Received By	Title	Date/Time
INAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

KMW

000000009

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-088-071 | Page 1 of 1

ollector: S. Deeter	Company Contact: Joan Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: ~~15~~ Days 7 RTC 9/3/08		
oject Designation: 618-7 Burial Ground - Other	Sampling Location: 618-7 Burial Ground (drums)		SAF No.: RC-088
e Chest No.: AFS-06-003	Field Logbook No.: EL-1395-13	COA: RG61878500	Method of Shipment: Fed Ex
ipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080346		Bill of Lading/Air Bill No.: See aspc

OSSIBLE SAMPLE HAZARDS/REMARKS

otential Radioactive contamination, potential beryllium ontamination

pecial Handling and/or Storage

one

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C				
Type of Container	aG	aG	aG	aG	P	aG				
No. of Container(s)	1	0	0	0	1	1				
Volume	~~250mL~~ 500 RTC 250	125mL	125mL	60mL	500mL	40mL				
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. RTC 9/3/08	VOA 8270A				PIN #

Sample No.	Matrix *	Sample Date	Sample Time										
~~7H20~~	~~OTHER~~												
~~7H21~~	~~OTHER~~												
~~7H22~~	~~OTHER~~												
7H23	OTHER	9/3/08	1000	X	X	X	X		X				7033
7H24	OTHER	9/3/08	1015	X	X	X	X		X				7007

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
inquished By/Removed From: SEETER	Received By/Stored In: RT Coffman / RT Coffman	Date/Time: 1700 9-3-08 / 1700 9/3/08
inquished By/Removed From: RT Coffman / RT Coffman	Received By/Stored In: Reset #1B, 1060	Date/Time: 1900 9/3/08 / 1900 9/3/08
inquished By/Removed From: 060/1B	Received By/Stored In: MStankovich	Date/Time: 0815 SEP 08 2008 / 0815 SEP 08 2008
inquished By/Removed From: MStankovich	Received By/Stored In: Fed Ex	Date/Time: 0915 SEP 08 2008 /
inquished By/Removed From: Fed Ex	Received By/Stored In:	Date/Time: 9-10-08 0935 / 9-10-08 0935
inquished By/Removed From	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc}; ICP Metals - 6010A (Add-on) {Arsenic, Lead, Selenium, Thallium, Tin, Zirconium}; Mercury - 7471 - (CV)

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DL=Drum Liquids
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WI=Wipe
L=Liquid
Vs=Vegetation
X=Other

ABORATORY SECTION	Received By	Title	Date/Time
NAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

000000010

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-088-072 | Page 1 of 1

lector . Deeter	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code	Data Turnaround ~~15~~ 7 Days		
iect Designation 618-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums)		SAF No. RC-088
Chest No. HFS-06-003	Field Logbook No. EL-1395-13	COA RG61878500	Method of Shipment FedEx RTC 9/3/08
ipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080346		Bill of Lading/Air Bill No. See OSPC

OSSIBLE SAMPLE HAZARDS/REMARKS

otential Radioactive contamination, potential beryllium ontamination

pecial Handling and/or Storage

one

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C				
Type of Container	aG	aG	aG	aG	P	2G				
No. of Container(s)	1	0	0	0	1	1				
Volume	250mL	125mL	125mL	60mL	500mL	40mL				
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions.	Ignitability - 1010	See item (2) in Special Instructions. 9/3/08	VOA 8270A				PIN #

Sample No.	Matrix *	Sample Date	Sample Time										PIN #
7H25	OTHER	9/3/08	1240	X	X	X	X		X				6960
7H26	OTHER		1345	X	X	X	X		X				7144
7H27	OTHER		1405	X	X	X	X		X				7140
7H28	OTHER		1440	X	X	X	X		X				7034
7H29	OTHER	9/3/08	1450	X	X	X	X		X				7035

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
linquished By/Removed From DEETER	1700 9-3-08	Received By/Stored In RTCOFFMAN/RTCoffman	1700 9/3/08
linquished By/Removed From STCOFFMAN/RTCoffman	1900 9/3/08	Received By/Stored In Reeder LB, 1060,	1900 9/3/08
linquished By/Removed From 060/110	0915 SEP 0 8 2008	Received By/Stored In MSTankovic	0915 SEP 0 8 2008
linquished By/Removed From MSTankovic	0915 SEP 0 8 2008	Received By/Stored In FedEx	
linquished By/Removed From FedEx 9-10-08	0935	Received By/Stored In	9-3-08 0935
linquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) (Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc); ICP Metals - 6010A (Add-on) (Arsenic, Lead, Selenium, Thallium, Tin, Zirconium); Mercury - 7471 - (CV)

(2) Gross Alpha; Gross Beta; Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Isotopic Uranium; Isotopic Thorium; Americium-241; Isotopic Plutonium; Strontium-89,90 – Total Sr

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T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

ABORATORY SECTION	Received By	Title	Date/Time
INAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

000000011

Washington Closure Hanford | **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** | RC-088-073 | Page 1 of 1

llector S. Deeter	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code	Data Turnaround 15 Days		
ɔject Designation 618-7 Burial Ground - Other	Sampling Location 618-7 Burial Ground (drums)		SAF No. RC-088
Chest No. HFS-06-003	Field Logbook No. EL-1395-13	COA RG61878500	Method of Shipment FED EX
ipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080346		Bill of Lading/Air Bill No. See ospc

OSSIBLE SAMPLE HAZARDS/REMARKS

otential Radioactive contamination, potential beryllium ontamination

pecial Handling and/or Storage

one

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4°C					
Type of Container	aG	aG	aG	aG	P	aG					
No. of Container(s)	1	0	0	0	1	1					
Volume	250mL	125mL	125mL	60mL	500mL	40mL					
SAMPLE ANALYSIS	Semi-VOA - 8270A (TCL)	PCBs - 8082	See item (1) in Special Instructions	Ignitability - 1010	See item (2) in Special Instructions. RJC 9/3/08	VOA 8270A					PIN #
Sample No. / Matrix * / Sample Date / Sample Time											
7H30 / OTHER / 9/3/08 / 1500	X	X	X	X		X					7045
7H31 / OTHER / 9/3/08 / 1530	X	X	X	X		X					7142
7H32 / OTHER / 9/3/08 / 1540	X	X	X	X		X					7141
7H33 / OTHER											
7H34 / OTHER											

CHAIN OF POSSESSION	Sign/Print Names		
inquished By/Removed From	Date/Time 1700 9-3-08	Received By/Stored In RT Coffman / RT Coffman	Date/Time 1700 9/3/08
inquished By/Removed From RT Coffman / RT Coffman	Date/Time 1900 9/3/08	Received By/Stored In Refer #13 1060	Date/Time 1900 9/3/08
linquished By/Removed From 1060/13	Date/Time 0915 SEP 08 2008	Received By/Stored In MSlankoud	Date/Time 0915 SEP 08 2008
linquished By/Removed From coolt MSlankoud	Date/Time 0915 SEP 08 2008	Received By/Stored In FED EX	Date/Time
linquished By/Removed From FED EX	Date/Time 9-10-08 0935	Received By/Stored In	Date/Time 9-10-08 0935
linquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) (Aluminum, Antimony, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Silver, Sodium, Vanadium, Zinc); ICP Metals - 6010A (Add-on) (Arsenic, Lead, Selenium, Thallium, Tin, Zirconium); Mercury - 7471 - (CV)

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T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

ABORATORY SECTION	Received By	Title	Date/Time
INAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

CH-EE-011

000000012

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: W.C. Hanford
Project/SAF/SOW/Release #: RC-088

Date: 9-10-08

LvLI Batch #: 08091085

Sample Custodian: [signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7900 8019 1057 7905 7304 2908
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 2-5 2-2	°C	Cooler # ERC-99-056 AFS-06-003
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 LABORATORIES