0076999

SAF-RC-012
100-N Ancillary Facilities & 190-DR Waste Characterization - Other Liquid
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Amy Hood	X5-50	KW 4/22/08 INITIAL/DATE
Tom Edmundson	X5-50	KW 4/22/08 INITIAL/DATE

COMMENTS:

SDG K1156 **SAF-RC-012**

Rad only Chem only X Rad & Chem

X Complete Partial

Waste Site: 1330-N Waste Pad

RECEIVED
MAY 01 2008
EDMC

EBERLINE
SERVICES

RECEIVED
APR 2008

April 14, 2008

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

Reference: **P.O. #S00W235A00**
Eberline Services R8-03-126-7784, SDG K1156

Dear Ms. Kessner:

Enclosed is the data report for twelve liquid (other liquid) samples designated under SAF No. RC-012, received at Eberline Services on March 27, 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

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

1.0 GENERAL

Washington Closure Hanford (WCH) Sample Delivery Group K1157 was composed of twelve liquid (other liquid) samples designated under SAF No. RC-012 with a Project Designation of: 100-N Ancillary Facilities & 190-DR Waste Characterization.

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 April 11, 2008.

2.0 ANALYSIS NOTES

2.1 Gross Alpha and Gross Beta Analysis

No problems were encountered during the course of the analyses.

2.2 Gamma Spectroscopy

No problems were encountered during the course of the analyses.

3.0 Case Narrative Certification Statement

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

Melissa Mannion

Melissa C. Mannion
Senior Program Manager

04/14/08

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 K1156

SDG	7784
Contact	Melissa C. Mannion

Client	Hanford
Contract	No. S00W235A00
Case no	SDG_K1156

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

About this section	1
Sample Summaries	3
Prep Batch Summary	5
Work Summary	6
Method Blanks	8
Lab Control Samples	9
Duplicates	10
Data Sheets	11
Method Summaries	23
Report Guides	29
End of Section	43

Prepared by

Reviewed by

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	04/11/08

SDG 7784
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1156

ABOUT THE DATA SUMMARY SECTION

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

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

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

PREPARATION BATCH SUMMARY

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

WORK SUMMARY

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

METHOD BLANKS

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

LAB CONTROL SAMPLES

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/11/08

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 K1156

LAB SAMPLE SUMMARY

SDG 7784
Contact Melissa C. Mannion

Client Hanford
Contract No. S00W235A00
Case no SDG K1156

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CHAIN OF CUSTODY	COLLECTED
R803126-01	J16HW4	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 15:15
R803126-02	J16HW5	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 15:25
R803126-03	J16HW6	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 15:40
R803126-04	J16HW7	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 15:50
R803126-05	J16HW8	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 16:00
R803126-06	J16HW9	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 16:20
R803126-07	J16HX0	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 16:35
R803126-08	J16HX1	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 16:50
R803126-09	J16HX2	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 17:00
R803126-10	J16HX3	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 17:15
R803126-11	J16HX4	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 17:25
R803126-12	J16HX5	1330-N Waste Pad	LIQUID		RC-012	RC-12-015	03/20/08 17:35
R803126-13	Lab Control Sample		LIQUID		RC-012		
R803126-14	Method Blank		LIQUID		RC-012		
R803126-15	Duplicate (R803126-06)	1330-N Waste Pad	LIQUID		RC-012		03/20/08 16:20

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

SDG 7784
Contact Melissa C. Mannion

QC SUMMARY

Client Hanford
Contract No. S00W235A00
Case no SDG K1156

: 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
784	RC-12-015	J16HW4	LIQUID		92.5 ml		03/27/08	7	R803126-01	7784-001
		J16HW5	LIQUID		84.0 ml		03/27/08	7	R803126-02	7784-002
		J16HW6	LIQUID		100 ml		03/27/08	7	R803126-03	7784-003
		J16HW7	LIQUID		93 ml		03/27/08	7	R803126-04	7784-004
		J16HW8	LIQUID		108 ml		03/27/08	7	R803126-05	7784-005
		J16HW9	LIQUID		90 ml		03/27/08	7	R803126-06	7784-006
		J16HX0	LIQUID		103 ml		03/27/08	7	R803126-07	7784-007
		J16HX1	LIQUID		94 ml		03/27/08	7	R803126-08	7784-008
		J16HX2	LIQUID		91 ml		03/27/08	7	R803126-09	7784-009
		J16HX3	LIQUID		85 ml		03/27/08	7	R803126-10	7784-010
		J16HX4	LIQUID		102 ml		03/27/08	7	R803126-11	7784-011
		J16HX5	LIQUID		150 ml		03/27/08	7	R803126-12	7784-012
		Method Blank	LIQUID						R803126-14	7784-014
		Lab Control Sample	LIQUID						R803126-13	7784-013
		Duplicate (R803126-06)	LIQUID		90 ml		03/27/08	7	R803126-15	7784-015

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

SDG 7784
Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
Contract No. S00W235A00
Case no SDG K1156

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Gas Proportional Counting												
93A	LIQUID	Gross Alpha in Liquid	6148-046	20.6	12			1	1	1/1		
93B	LIQUID	Gross Beta in Liquid	6148-046	11.0	12			1	1	1/1		
Gamma Spectroscopy												
GAM	LIQUID	Gamma Scan in Liquid	6148-046	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 Hanford
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

SDG 7784
Contact Melissa C. Mannion

LAB WORK SUMMARY

Client Hanford
Contract No. S00W235A00
Case no SDG K1156

AB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
303126-01	J16HW4			7784-001	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-001	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-001	GAM		03/31/08	04/09/08	BW	Gamma Scan in Liquid
803126-02	J16HW5			7784-002	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-002	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-002	GAM		03/31/08	04/09/08	BW	Gamma Scan in Liquid
803126-03	J16HW6			7784-003	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-003	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-003	GAM		04/07/08	04/09/08	BW	Gamma Scan in Liquid
803126-04	J16HW7			7784-004	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-004	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-004	GAM		03/31/08	04/09/08	BW	Gamma Scan in Liquid
803126-05	J16HW8			7784-005	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-005	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-005	GAM		03/31/08	04/09/08	BW	Gamma Scan in Liquid
803126-06	J16HW9			7784-006	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-006	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-006	GAM		03/31/08	04/09/08	BW	Gamma Scan in Liquid
803126-07	J16HX0			7784-007	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-007	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-007	GAM		04/02/08	04/09/08	BW	Gamma Scan in Liquid
803126-08	J16HX1			7784-008	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-008	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-008	GAM		03/31/08	04/09/08	BW	Gamma Scan in Liquid
803126-09	J16HX2			7784-009	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-009	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-009	GAM		03/31/08	04/09/08	BW	Gamma Scan in Liquid
803126-10	J16HX3			7784-010	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-010	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-010	GAM		04/02/08	04/09/08	BW	Gamma Scan in Liquid

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

SDG 7784
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. S00W235A00
Case no SDG K1156

AB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
303126-11	J16HX4			7784-011	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-011	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-011	GAM		04/07/08	04/09/08	BW	Gamma Scan in Liquid
303126-12	J16HX5			7784-012	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-012	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08	RC-12-015	RC-012		7784-012	GAM		04/03/08	04/09/08	BW	Gamma Scan in Liquid
303126-13	Lab Control Sample			7784-013	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
			LIQUID	7784-013	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
		RC-012		7784-013	GAM		04/04/08	04/09/08	BW	Gamma Scan in Liquid
303126-14	Method Blank			7784-014	93A/93		04/09/08	04/09/08	BW	Gross Alpha in Liquid
			LIQUID	7784-014	93B/93		04/09/08	04/09/08	BW	Gross Beta in Liquid
		RC-012		7784-014	GAM		04/04/08	04/09/08	BW	Gamma Scan in Liquid
303126-15	Duplicate (R803126-06)			7784-015	93A/93		04/03/08	04/09/08	BW	Gross Alpha in Liquid
03/20/08	1330-N Waste Pad		LIQUID	7784-015	93B/93		04/03/08	04/09/08	BW	Gross Beta in Liquid
03/27/08		RC-012		7784-015	GAM		03/31/08	04/09/08	BW	Gamma Scan in Liquid

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
93A/93	RC-012	Gross Alpha in Liquid	900.0_ALPHABETA_GPC	12			1	1	1	15
93B/93	RC-012	Gross Beta in Liquid	900.0_ALPHABETA_GPC	12			1	1	1	15
GAM	RC-012	Gamma Scan in Liquid	GAMMA_GS	12			1	1	1	15
TOTALS				36			3	3	3	45

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LWS
Version 3.06
Report date 04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-014 **Method Blank**

METHOD BLANK

SDG	7784	Client/Case no	Hanford	SDG K1156	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R803126-14	Client sample id	Method Blank		
Dept sample id	7784-014	Material/Matrix		LIQUID	
		SAF No	RC-012		

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	-0.822	2.2	5.89	10.0	U	93A
Gross Beta	12587-47-2	0.733	3.6	6.09	15.0	U	93B
Potassium 40	13966-00-2	U		0.747		U	GAM
Cobalt 60	10198-40-0	U		0.032	0.050	U	GAM
Cesium 137	10045-97-3	U		0.049	0.050	U	GAM
Radium 226	13982-63-3	U		0.078	0.100	U	GAM
Radium 228	15262-20-1	U		0.202	0.200	U	GAM
Europium 152	14683-23-9	U		0.117	0.100	U	GAM
Europium 154	15585-10-1	U		0.105	0.100	U	GAM
Europium 155	14391-16-3	U		0.087	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

QC-BLANK #65210

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-013

Lab Control Sample

LAB CONTROL SAMPLE

SDG 7784
Contact Melissa C. Mannion

Client/Case no Hanford SDG K1156
Contract No. S00W235A00

Lab sample id R803126-13
Dept sample id 7784-013

Client sample id Lab Control Sample
Material/Matrix LIQUID
SAF No RC-012

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	126	18	5.98	10.0		93A	102	4.1	124	53-147	70-130
Gross Beta	94.0	7.4	5.51	15.0		93B	93.6	3.7	100	79-121	70-130
Cobalt 60	2.96	0.12	0.075	0.050		GAM	2.73	0.11	108	86-114	80-120
Cesium 137	3.44	0.12	0.081	0.050		GAM	2.90	0.12	119	85-115	80-120

100N Anclry Fclts & 190DR Wst Chrtza

QC-LCS #65209

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-015 J16HW9

DUPLICATE

SDG	7784			Client/Case no	Hanford SDG K1156
Contact	Melissa C. Mannion			Contract	No. S00W235A00
	DUPLICATE		ORIGINAL		
Lab sample id	R803126-15	Lab sample id	R803126-06	Client sample id	J16HW9
Dept sample id	7784-015	Dept sample id	7784-006	Location/Matrix	1330-N Waste Pad LIQUID
		Received	03/27/08	Collected/Volume	03/20/08 16:20 90 ml
				Custody/SAF No	RC-12-015 RC-012

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	-1.00	1.2	2.88	10.0	U	93A	-1.02	1.0	2.73	U	-		0
Gross Beta	-1.34	3.0	5.16	15.0	U	93B	-1.63	3.9	6.61	U	-		0.1
Potassium 40	U		1.34		U	GAM	U		3.10	U	-		1.0
Cobalt 60	U		0.052	0.050	U	GAM	U		0.112	U	-		1.0
Cesium 137	U		0.113	0.050	U	GAM	U		0.112	U	-		0
Radium 226	U		0.110	0.100	U	GAM	U		0.250	U	-		1.0
Radium 228	U		0.232	0.200	U	GAM	U		0.524	U	-		1.0
Europium 152	U		0.141	0.100	U	GAM	U		0.307	U	-		1.0
Europium 154	U		0.148	0.100	U	GAM	U		0.337	U	-		1.0
Europium 155	U		0.111	0.100	U	GAM	U		0.229	U	-		0.9

100N Anclry Fclts & 190DR Wst Chrtza

QC-DUP#6 65211

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DUP.
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-001 J16HW4

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG K1156	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R803126-01	Client sample id	J16HW4		
Dept sample id	7784-001	Location/Matrix	1330-N Waste Pad	LIQUID	
Received	03/27/08	Collected/Volume	03/20/08 15:15	92.5 ml	
		Custody/SAF No	RC-12-015	RC-012	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	1.17	1.3	2.11	10.0	U	93A
Gross Beta	12587-47-2	-1.37	3.9	6.99	15.0	U	93B
Potassium 40	13966-00-2	U		0.719		U	GAM
Cobalt 60	10198-40-0	U		0.069	0.050	U	GAM
Cesium 137	10045-97-3	U		0.067	0.050	U	GAM
Radium 226	13982-63-3	U		0.137	0.100	U	GAM
Radium 228	15262-20-1	U		0.259	0.200	U	GAM
Europium 152	14683-23-9	U		0.161	0.100	U	GAM
Europium 154	15585-10-1	U		0.206	0.100	U	GAM
Europium 155	14391-16-3	U		0.119	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-002 J16HW5

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG K1156	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R803126-02	Client sample id	J16HW5		
Dept sample id	7784-002	Location/Matrix	1330-N Waste Pad	LIQUID	
Received	03/27/08	Collected/Volume	03/20/08 15:25	84.0 ml	
		Custody/SAF No	RC-12-015	RC-012	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	-0.202	0.97	2.17	10.0	U	93A
Gross Beta	12587-47-2	-1.10	3.9	7.01	15.0	U	93B
Potassium 40	13966-00-2	U		0.973		U	GAM
Cobalt 60	10198-40-0	U		0.042	0.050	U	GAM
Cesium 137	10045-97-3	U		0.046	0.050	U	GAM
Radium 226	13982-63-3	U		0.097	0.100	U	GAM
Radium 228	15262-20-1	U		0.205	0.200	U	GAM
Europium 152	14683-23-9	U		0.144	0.100	U	GAM
Europium 154	15585-10-1	U		0.132	0.100	U	GAM
Europium 155	14391-16-3	U		0.109	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-003 **J16HW6**

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG_K1156	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R803126-03	Client sample id	J16HW6		
Dept sample id	7784-003	Location/Matrix	1330-N Waste Pad	LIQUID	
Received	03/27/08	Collected/Volume	03/20/08 15:40	100 ml	
		Custody/SAF No	RC-12-015	RC-012	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.104	0.80	1.72	10.0	U	93A
Gross Beta	12587-47-2	-0.035	2.5	4.39	15.0	U	93B
Potassium 40	13966-00-2	U		1.26		U	GAM
Cobalt 60	10198-40-0	U		0.050	0.050	U	GAM
Cesium 137	10045-97-3	U		0.069	0.050	U	GAM
Radium 226	13982-63-3	U		0.104	0.100	U	GAM
Radium 228	15262-20-1	U		0.215	0.200	U	GAM
Europium 152	14683-23-9	U		0.134	0.100	U	GAM
Europium 154	15585-10-1	U		0.144	0.100	U	GAM
Europium 155	14391-16-3	U		0.118	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-004 **J16HW7**

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG_K1156	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R803126-04	Client sample id	J16HW7		
Dept sample id	7784-004	Location/Matrix	1330-N Waste Pad	LIQUID	
Received	03/27/08	Collected/Volume	03/20/08 15:50	93 ml	
		Custody/SAF No	RC-12-015	RC-012	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	-0.610	1.1	2.55	10.0	U	93A
Gross Beta	12587-47-2	-0.268	3.6	6.11	15.0	U	93B
Potassium 40	13966-00-2	U		2.19		U	GAM
Cobalt 60	10198-40-0	U		0.086	0.050	U	GAM
Cesium 137	10045-97-3	U		0.078	0.050	U	GAM
Radium 226	13982-63-3	U		0.176	0.100	U	GAM
Radium 228	15262-20-1	U		0.365	0.200	U	GAM
Europium 152	14683-23-9	U		0.208	0.100	U	GAM
Europium 154	15585-10-1	U		0.227	0.100	U	GAM
Europium 155	14391-16-3	U		0.163	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-005 **J16HW8**

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG K1156	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R803126-05	Client sample id	J16HW8		
Dept sample id	7784-005	Location/Matrix	1330-N Waste Pad	LIQUID	
Received	03/27/08	Collected/Volume	03/20/08 16:00	108 ml	
		Custody/SAF No	RC-12-015	RC-012	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	-0.250	1.4	2.77	10.0	U	93A
Gross Beta	12587-47-2	0.714	3.0	4.89	15.0	U	93B
Potassium 40	13966-00-2	U		0.975		U	GAM
Cobalt 60	10198-40-0	U		0.060	0.050	U	GAM
Cesium 137	10045-97-3	U		0.051	0.050	U	GAM
Radium 226	13982-63-3	U		0.101	0.100	U	GAM
Radium 228	15262-20-1	U		0.243	0.200	U	GAM
Europium 152	14683-23-9	U		0.125	0.100	U	GAM
Europium 154	15585-10-1	U		0.143	0.100	U	GAM
Europium 155	14391-16-3	U		0.122	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-006 J16HW9

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG_K1156	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R803126-06	Client sample id	J16HW9		
Dept sample id	7784-006	Location/Matrix	1330-N Waste Pad	LIQUID	
Received	03/27/08	Collected/Volume	03/20/08 16:20	90 ml	
		Custody/SAF No	RC-12-015	RC-012	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	-1.02	1.0	2.73	10.0	U	93A
Gross Beta	12587-47-2	-1.63	3.9	6.61	15.0	U	93B
Potassium 40	13966-00-2	U		3.10		U	GAM
Cobalt 60	10198-40-0	U		0.112	0.050	U	GAM
Cesium 137	10045-97-3	U		0.112	0.050	U	GAM
Radium 226	13982-63-3	U		0.250	0.100	U	GAM
Radium 228	15262-20-1	U		0.524	0.200	U	GAM
Europium 152	14683-23-9	U		0.307	0.100	U	GAM
Europium 154	15585-10-1	U		0.337	0.100	U	GAM
Europium 155	14391-16-3	U		0.229	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-007 J16HX0

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG_K1156
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R803126-07	Client sample id	J16HX0	
Dept sample id	7784-007	Location/Matrix	1330-N Waste Pad	LIQUID
Received	03/27/08	Collected/Volume	03/20/08 16:35	103 ml
		Custody/SAF No	RC-12-015	RC-012

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.135	1.4	2.60	10.0	U	93A
Gross Beta	12587-47-2	-1.13	2.7	4.68	15.0	U	93B
Potassium 40	13966-00-2	U		0.404		U	GAM
Cobalt 60	10198-40-0	U		0.034	0.050	U	GAM
Cesium 137	10045-97-3	U		0.033	0.050	U	GAM
Radium 226	13982-63-3	U		0.076	0.100	U	GAM
Radium 228	15262-20-1	U		0.146	0.200	U	GAM
Europium 152	14683-23-9	U		0.086	0.100	U	GAM
Europium 154	15585-10-1	U		0.094	0.100	U	GAM
Europium 155	14391-16-3	U		0.066	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-008 J16HX1

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG K1156	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R803126-08	Client sample id	J16HX1		
Dept sample id	7784-008	Location/Matrix	1330-N Waste Pad	LIQUID	
Received	03/27/08	Collected/Volume	03/20/08 16:50	94 ml	
		Custody/SAF No	RC-12-015	RC-012	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.280	1.0	1.90	10.0	U	93A
Gross Beta	12587-47-2	-1.88	2.6	4.86	15.0	U	93B
Potassium 40	13966-00-2	U		2.04		U	GAM
Cobalt 60	10198-40-0	U		0.072	0.050	U	GAM
Cesium 137	10045-97-3	U		0.082	0.050	U	GAM
Radium 226	13982-63-3	U		0.164	0.100	U	GAM
Radium 228	15262-20-1	U		0.343	0.200	U	GAM
Europium 152	14683-23-9	U		0.208	0.100	U	GAM
Europium 154	15585-10-1	U		0.215	0.100	U	GAM
Europium 155	14391-16-3	U		0.169	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-009 **J16HX2**

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG_K1156	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R803126-09	Client sample id	J16HX2		
Dept sample id	7784-009	Location/Matrix	1330-N Waste Pad	LIQUID	
Received	03/27/08	Collected/Volume	03/20/08 17:00	91 ml	
		Custody/SAF No	RC-12-015	RC-012	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.284	1.1	2.22	10.0	U	93A
Gross Beta	12587-47-2	3.24	2.9	4.82	15.0	U	93B
Potassium 40	13966-00-2	U		2.13		U	GAM
Cobalt 60	10198-40-0	U		0.078	0.050	U	GAM
Cesium 137	10045-97-3	U		0.079	0.050	U	GAM
Radium 226	13982-63-3	U		0.176	0.100	U	GAM
Radium 228	15262-20-1	U		0.350	0.200	U	GAM
Europium 152	14683-23-9	U		0.215	0.100	U	GAM
Europium 154	15585-10-1	U		0.236	0.100	U	GAM
Europium 155	14391-16-3	U		0.158	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-010 **J16HX3**

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG K1156
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R803126-10	Client sample id	J16HX3	
Dept sample id	7784-010	Location/Matrix	1330-N Waste Pad	LIQUID
Received	03/27/08	Collected/Volume	03/20/08 17:15	85 ml
		Custody/SAF No	RC-12-015	RC-012

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.283	1.2	2.32	10.0	U	93A
Gross Beta	12587-47-2	-0.502	2.9	5.32	15.0	U	93B
Potassium 40	13966-00-2	U		2.26		U	GAM
Cobalt 60	10198-40-0	U		0.078	0.050	U	GAM
Cesium 137	10045-97-3	U		0.076	0.050	U	GAM
Radium 226	13982-63-3	U		0.186	0.100	U	GAM
Radium 228	15262-20-1	U		0.365	0.200	U	GAM
Europium 152	14683-23-9	U		0.217	0.100	U	GAM
Europium 154	15585-10-1	U		0.256	0.100	U	GAM
Europium 155	14391-16-3	U		0.173	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-011 **J16HX4**

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG_K1156	
Contact	Melissa C. Mannion	Contract	No. S00W235A00		
Lab sample id	R803126-11	Client sample id	J16HX4		
Dept sample id	7784-011	Location/Matrix	1330-N Waste Pad	LIQUID	
Received	03/27/08	Collected/Volume	03/20/08 17:25	102 ml	
		Custody/SAF No	RC-12-015	RC-012	

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.856	1.3	2.25	10.0	U	93A
Gross Beta	12587-47-2	0.348	4.2	7.36	15.0	U	93B
Potassium 40	13966-00-2	U		0.563		U	GAM
Cobalt 60	10198-40-0	U		0.025	0.050	U	GAM
Cesium 137	10045-97-3	U		0.026	0.050	U	GAM
Radium 226	13982-63-3	U		0.060	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		0.077	0.100	U	GAM
Europium 155	14391-16-3	U		0.068	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

7784-012 **J16HX5**

DATA SHEET

SDG	7784	Client/Case no	Hanford	SDG_K1156
Contact	Melissa C. Mannion	Contract	No. S00W235A00	
Lab sample id	R803126-12	Client sample id	J16HX5	
Dept sample id	7784-012	Location/Matrix	1330-N Waste Pad	LIQUID
Received	03/27/08	Collected/Volume	03/20/08 17:35	150 ml
		Custody/SAF No	RC-12-015	RC-012

ANALYTE	CAS NO	RESULT pCi/mL	2σ ERR (COUNT)	MDA pCi/mL	RDL pCi/mL	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	-0.006	1.2	2.43	10.0	U	93A
Gross Beta	12587-47-2	-2.70	4.4	8.02	15.0	U	93B
Potassium 40	13966-00-2	U		1.90		U	GAM
Cobalt 60	10198-40-0	U		0.071	0.050	U	GAM
Cesium 137	10045-97-3	U		0.068	0.050	U	GAM
Radium 226	13982-63-3	U		0.161	0.100	U	GAM
Radium 228	15262-20-1	U		0.320	0.200	U	GAM
Europium 152	14683-23-9	U		0.185	0.100	U	GAM
Europium 154	15585-10-1	U		0.221	0.100	U	GAM
Europium 155	14391-16-3	U		0.152	0.100	U	GAM

100N Anclry Fclts & 190DR Wst Chrtza

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

Test 93A Matrix LIQUID
SDG 7784
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS ALPHA IN LIQUID

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1156

RESULTS

AB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Gross Alpha	
reparation batch 6148-046						
803126-01	93		7784-001	J16HW4	U	
803126-02	93		7784-002	J16HW5	U	
803126-03	93		7784-003	J16HW6	U	
803126-04	93		7784-004	J16HW7	U	
803126-05	93		7784-005	J16HW8	U	
803126-06	93		7784-006	J16HW9	U	
803126-07	93		7784-007	J16HX0	U	
803126-08	93		7784-008	J16HX1	U	
803126-09	93		7784-009	J16HX2	U	
803126-10	93		7784-010	J16HX3	U	
803126-11	93		7784-011	J16HX4	U	
803126-12	93		7784-012	J16HX5	U	
803126-13	93		7784-013	Lab Control Sample	ok	
803126-14	93		7784-014	Method Blank	U	
803126-15	93		7784-015	Duplicate (R803126-06)	-	U

ominal values and limits from method RDLs (pCi/mL) 10.0
00N Anclry Fclts & 190DR Wst Chrtza

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

Test 93A Matrix LIQUID
SDG 7784
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS ALPHA IN LIQUID
GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1156

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
reparation batch 6148-046			2σ prep error 20.6 % Reference Lab Notebook #6148, pg. 46													
803126-01	93		J16HW4	2.11	0.120			0		100			14	04/02/08	04/03	GRB-213
803126-02	93		J16HW5	2.17	0.118			1		100			14	04/02/08	04/03	GRB-214
803126-03	93		J16HW6	1.72	0.120			1		100			14	04/02/08	04/03	GRB-216
803126-04	93		J16HW7	2.55	0.118			1		100			14	04/02/08	04/03	GRB-114
803126-05	93		J16HW8	2.77	0.115			1		100			14	04/02/08	04/03	GRB-115
803126-06	93		J16HW9	2.73	0.109			0		100			14	04/02/08	04/03	GRB-114
803126-07	93		J16HX0	2.60	0.120			0		100			14	04/02/08	04/03	GRB-115
803126-08	93		J16HX1	1.90	0.112			0		100			14	04/02/08	04/03	GRB-209
803126-09	93		J16HX2	2.22	0.113			0		100			14	04/02/08	04/03	GRB-210
803126-10	93		J16HX3	2.32	0.102			0		100			14	04/02/08	04/03	GRB-211
803126-11	93		J16HX4	2.25	0.114			1		100			14	04/02/08	04/03	GRB-213
803126-12	93		J16HX5	2.43	0.103			0		100			14	04/02/08	04/03	GRB-214
803126-13	93		Lab Control Sample	5.98	0.100			60		100				04/02/08	04/03	GRB-216
803126-14	93		Method Blank	5.89	0.100			60		100				04/02/08	04/09	GRB-105
803126-15	93		Duplicate (R803126-06)	2.88	0.109			0		100			14	04/02/08	04/03	GRB-115
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 15 SAMPLES
MDA 2.83 ± 2.60
RESIDUE 8 ± 42

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

Test 93B Matrix LIQUID
SDG 7784
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS BETA IN LIQUID

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1156

RESULTS

AB AMPLE ID	RAW TEST	SUF- FIX	PLANCHET	CLIENT SAMPLE ID	Gross Beta	
reparation batch 6148-046						
803126-01	93		7784-001	J16HW4	U	
803126-02	93		7784-002	J16HW5	U	
803126-03	93		7784-003	J16HW6	U	
803126-04	93		7784-004	J16HW7	U	
803126-05	93		7784-005	J16HW8	U	
803126-06	93		7784-006	J16HW9	U	
803126-07	93		7784-007	J16HX0	U	
803126-08	93		7784-008	J16HX1	U	
803126-09	93		7784-009	J16HX2	U	
803126-10	93		7784-010	J16HX3	U	
803126-11	93		7784-011	J16HX4	U	
803126-12	93		7784-012	J16HX5	U	
803126-13	93		7784-013	Lab Control Sample	ok	
803126-14	93		7784-014	Method Blank	U	
803126-15	93		7784-015	Duplicate (R803126-06)	-	U

ominal values and limits from method RDLs (pCi/mL) 15.0
00N Anclry Fclts & 190DR Wst Chrtza

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

Test 93B Matrix LIQUID
SDG 7784
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GROSS BETA IN LIQUID

GAS PROPORTIONAL COUNTING

Client Hanford
Contract No. S00W235A00
Contract SDG K1156

ETHOD PERFORMANCE

.B MPLE 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 6148-046			2σ prep error 11.0 % Reference Lab Notebook #6148, pg. 46													
303126-01	93		J16HW4	6.99	0.120			0		100			14	04/02/08	04/03	GRB-213
303126-02	93		J16HW5	7.01	0.118			1		100			14	04/02/08	04/03	GRB-214
303126-03	93		J16HW6	4.39	0.120			1		100			14	04/02/08	04/03	GRB-216
303126-04	93		J16HW7	6.11	0.118			1		100			14	04/02/08	04/03	GRB-114
303126-05	93		J16HW8	4.89	0.115			1		100			14	04/02/08	04/03	GRB-115
303126-06	93		J16HW9	6.61	0.109			0		100			14	04/02/08	04/03	GRB-114
303126-07	93		J16HX0	4.68	0.120			0		100			14	04/02/08	04/03	GRB-115
803126-08	93		J16HX1	4.86	0.112			0		100			14	04/02/08	04/03	GRB-209
803126-09	93		J16HX2	4.82	0.113			0		100			14	04/02/08	04/03	GRB-210
803126-10	93		J16HX3	5.32	0.102			0		100			14	04/02/08	04/03	GRB-211
803126-11	93		J16HX4	7.36	0.114			1		100			14	04/02/08	04/03	GRB-213
803126-12	93		J16HX5	8.02	0.103			0		100			14	04/02/08	04/03	GRB-214
803126-13	93		Lab Control Sample	5.51	0.100			60		100				04/02/08	04/03	GRB-216
803126-14	93		Method Blank	6.09	0.100			60		100				04/02/08	04/09	GRB-105
803126-15	93		Duplicate (R803126-06)	5.16	0.109			0		100			14	04/02/08	04/03	GRB-115
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 5.85 ± 2.25
RESIDUE 8 ± 42

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

Test GAM Matrix LIQUID
SDG 7784
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA SCAN IN LIQUID

GAMMA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1156

:ESULTS

AB AMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt 60		Cesium 137	
reparation batch 6148-046								
803126-01			7784-001	J16HW4	U		U	
803126-02			7784-002	J16HW5	U		U	
803126-03			7784-003	J16HW6	U		U	
803126-04			7784-004	J16HW7	U		U	
803126-05			7784-005	J16HW8	U		U	
803126-06			7784-006	J16HW9	U		U	
803126-07			7784-007	J16HX0	U		U	
803126-08			7784-008	J16HX1	U		U	
803126-09			7784-009	J16HX2	U		U	
803126-10			7784-010	J16HX3	U		U	
803126-11			7784-011	J16HX4	U		U	
803126-12			7784-012	J16HX5	U		U	
803126-13			7784-013	Lab Control Sample	ok		HIGH	
803126-14			7784-014	Method Blank	U		U	
803126-15			7784-015	Duplicate (R803126-06)	-	U	-	U
ominal values and limits from method				RDLs (pCi/mL)	0.050		0.050	
00N Anclry Fclts & 190DR Wst Chrtza								

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/11/08

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K1156

Test GAM Matrix LIQUID
SDG 7784
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA SCAN IN LIQUID

GAMMA SPECTROSCOPY

Client Hanford
Contract No. S00W235A00
Contract SDG K1156

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
eparation batch 6148-046			2σ prep error 7.0 %	Reference Lab Notebook #6146, pg. 46												
303126-01			J16HW4	0.596	85.8					440			11	03/29/08	03/31	JR,01,00
303126-02			J16HW5	0.392	88.8					440			11	03/29/08	03/31	JR,02,00
303126-03			J16HW6	0.399	95.2					981			18	03/29/08	04/07	JR,08,00
303126-04			J16HW7	0.599	89.2					441			11	03/29/08	03/31	JR,04,00
303126-05			J16HW8	0.478	100					441			11	03/29/08	03/31	JR,05,00
303126-06			J16HW9	0.915	89.3					441			11	03/29/08	03/31	JR,06,00
303126-07			J16HX0	0.313	103					1002			13	03/29/08	04/02	JR,01,00
303126-08			J16HX1	0.619	95.2					441			11	03/29/08	03/31	JR,08,00
303126-09			J16HX2	0.604	81.9					1039			11	03/29/08	03/31	JR,06,00
303126-10			J16HX3	0.645	82.3					1003			13	03/29/08	04/02	JR,06,00
303126-11			J16HX4	0.252	97.7					980			18	03/29/08	04/07	JR,02,00
303126-12			J16HX5	0.566	90.0					1012			14	03/29/08	04/03	JR,06,00
303126-13			Lab Control Sample	0.081	81.0					869				03/29/08	04/04	JR,01,00
303126-14			Method Blank	0.310	81.0					869				03/29/08	04/04	JR,02,00
303126-15			Duplicate (R803126-06)	0.412	89.3					1040			11	03/29/08	03/31	JR,08,00
ominal values and limits from method				0.050	81.0					100			180			

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

AVERAGES ± 2 SD FOR 15 SAMPLES
MDA 0.479 ± 0.405
YIELD ____ ± ____

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 04/11/08

SDG 7784
Contact Melissa C. Mannion

Client Hanford
Contract No. S00W235A00
Case no SDG_K1156

SAMPLE SUMMARY

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

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

The following notes apply to these reports:

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

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

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

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

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

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/11/08

SDG 7784
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1156

PREPARATION BATCH SUMMARY

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

The following notes apply to this report:

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

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

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

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

  These qualifiers should be reviewed as follows:

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

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

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

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/11/08

SDG 7784
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1156

WORK SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/11/08

SDG 7784
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG K1156

DATA SHEET

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

The following notes apply to this report:

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

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

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

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

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

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

The following qualifiers are defined by the DVD system:

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/11/08

DATA SHEET

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

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

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

SDG 7784
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. S00W235A00
Case no SDG_K1156

DATA SHEET

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

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

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/11/08

SDG 7784
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1156

LAB CONTROL SAMPLE

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

The following notes apply to this report:

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/11/08

SDG 7784
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1156

DUPLICATE

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

The following notes apply to this report:

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

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

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

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

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

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

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

  This value reported for this limit is at most 999.

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

  1. A fixed percentage specified in the protocol.

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/11/08

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 7784
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1156

MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/11/08

SDG 7784
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. S00W235A00
Case no SDG K1156

MATRIX SPIKE

for the recovery.

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

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/11/08

SDG 7784
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. S00W235A00
Case no SDG_K1156

METHOD SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

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

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 04/11/08

METHOD SUMMARY

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

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

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

  MDAs are underlined if greater than the printed RDL.

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

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

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

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

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

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

METHOD SUMMARY

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

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

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

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

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

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

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

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

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

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

METHOD SUMMARY

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

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

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

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-012-015	Page 1 of 3

Collector: Edmundson/Isom/Perry	Company Contact: Tom Edmundson	Telephone No.: 376-4058	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: 15 Days		
Project Designation: 100-N Ancillary Facilities & 190-DR Waste Characterization	Sampling Location: 1330-N Waste Pad K1156 (7784)		SAF No.: RC-012
Ice Chest No.: ERC-99-046	Field Logbook No.: EL-1516-12	COA: RD4MXX2F00	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE RCF	Offsite Property No.: A080215		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

~~N/A~~ JRE 3-20-08 potential Rad ~~Non Rad~~

Special Handling and/or Storage

N/A

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C		None		
Type of Container	aG	aGs*	G/P	G/P	G/P	Gs*		aG		
No. of Container(s)	1	1	1	0 JRE 3-20-08	0	1		0		
Volume	1000mL	200mL	~~500mL~~ 125ml	~~500mL~~ 125ml	~~1000mL~~ 125ml	60mL		125ml		
SAMPLE ANALYSIS	PCBs - 8082 JRE 3-20-08	TOX - 9020	Gross Alpha	Gross Beta	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015 (Ethylene glycol) JRE 3-20-08		RCF Screen *See Below		

Sample No.	Matrix *	Sample Date	Sample Time		RCF							3-24-08 Kaz Grams	grams
J16HW4	OTHER LIQUID	3-20-08	1515		19311	✓	✓	✓			✓	209	74
J16HW5	OTHER LIQUID	3-20-08	1525		19312	✓	✓	✓			✓	74	69
J16HW6	OTHER LIQUID	3-20-08	1540		19313	✓	✓	✓			✓	215	80
J16HW7	OTHER LIQUID	3-20-08	1550		19314	✓	✓	✓			✓	211	76
J16HW8	OTHER LIQUID	3-20-08	1600		19315	✓	✓	✓			✓	224	86

CHAIN OF POSSESSION	Sign/Print Names	Date/Time
Relinquished By/Removed From: J R Edmundson	Received By/Stored In: 1060 Battelle #18	3-20-08 2140
Relinquished By/Removed From: 1060 Battelle Blvd #18	Received By/Stored In: David St. John	3/24/08 0830
Relinquished By/Removed From: David St. John	Received By/Stored In: K. Eliason/KW	3/24/08 1010
Relinquished By/Removed From: D. Miller	Received By/Stored In: David St. John	3-26-08 0930
Relinquished By/Removed From: David St. John	Received By/Stored In: FED EX	3/26/08 1230
Relinquished By/Removed From: FED EX	Received By/Stored In:	03/27/08 0900

SPECIAL INSTRUCTIONS

~~Pick up and trans ship RCF samples with their sample sets.~~ JRE 3-20-08

(1) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}

* To RCF first, then pick up and trans-ship to Eberline. TRE 3-20-08

Matrix *

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

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

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-012-015	Page 2 of 3

Collector: Edmundson/Isom/Perry	Company Contact: Tom Edmundson	Telephone No.: 376-4058	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: 15 Days		
Project Designation: 100-N Ancillary Facilities & 190-DR Waste Characterization	Sampling Location: 1330-N Waste Pad K1156 (7784)		SAF No.: RC-012
Ice Chest No.: ERC-99-046	Field Logbook No.: EL-1516-12	COA: RD4MXX2F00	Method of Shipment: Fed Ex
~~Shipped To~~ EBERLINE SERVICES / LIONVILLE	Offsite Property No.: 4080215		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A Non Rad

Special Handling and/or Storage

N/A

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C				
Type of Container	aG	aGs*	G/P	G/P	G/P	Gs*				
No. of Container(s)	1	1	1	0	0	1				
Volume	1000mL	200mL	~~500mL~~ 125mL	~~500mL~~ 125mL	~~1000mL~~ 125mL	60mL JRE 3-20-08				
SAMPLE ANALYSIS	PCBs - 8082 JRE 3-20-08	TOX - 9020	Gross Alpha JRE 3-20-08	Gross Beta	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones / 8015 (Ethylene glycol)				

Sample No.	Matrix *	Sample Date	Sample Time										
J16HW9	OTHER LIQUID	3-20-08	1620			✓	✓	✓					
J16HX0	OTHER LIQUID	3-20-08	1635			✓	✓	✓					
J16HX1	OTHER LIQUID	3-20-08	1650			✓	✓	✓					
J16HX2	OTHER LIQUID	3-20-08	1700			✓	✓	✓					
J16HX3	OTHER LIQUID	3-20-08	1715			✓	✓	✓					

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
TR Edmundson JR Edmundson	3-20-08 2100	1060 Battelle #2C	3-20-08 2100
1060 BATELLE 2C	3/26/08 1230	DAVID ST. JOHN David St. John	3/26/08 1230
DAVID ST. JOHN David St. John	3/26/08 1230	FED EX	
FED EX		[illegible]	3/27/08 09:00

SPECIAL INSTRUCTIONS

Pick up and trans-ship RCF samples with these sample sets.

(1) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154 Europium-155}

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-012-015	Page 3 of 3

Collector Edmundson/Isom/Perry	Company Contact Tom Edmundson	Telephone No. 376-4058	Project Coordinator KESSNER, JH
Price Code	Data Turnaround 15 Days		
Project Designation 100-N Ancillary Facilities & 190-DR Waste Characterization	Sampling Location 1330-N Waste Pad K1156 (7784)		SAF No. RC-012
Ice Chest No. ERC-99-046	Field Logbook No. EL-1516-12	COA RD4MXX2F00	Method of Shipment Fed Ex
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080215		Bill of Lading/Air Bill No. See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A Non Rad

Special Handling and/or Storage

N/A

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C				
Type of Container	aG	aGs*	G/P	G/P	G/P	Gs*				
No. of Container(s)	1	1	1	0 JRE 3-20-08	0	1				
Volume	1000mL	200mL	~~500mL~~ 125ml	~~500mL~~ 125ml	~~1000mL~~ 125ml	60mL				
SAMPLE ANALYSIS	PCBs - 8082 JRE 3-20-08	TOX - 9020	Gross Alpha	Gross Beta	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015 (Ethylene glycol) JRE 3-20-08				
Sample No.	Matrix *	Sample Date	Sample Time								
J16HX4	OTHER LIQUID	3-20-08	1725			✓	✓	✓			
J16HX5	OTHER LIQUID	3-20-08	1735			250 ml	✓	✓			

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: T.S. Edmundson JR Edmundson	3-20-08 2100	1060 Battelle #2C	3-20-08 2100
Relinquished By/Removed From: 1060 BATELLE 2C	3/26/08 1230	Received By/Stored In: DAVID ST JOHN Print Sign	3/26/08 1230
Relinquished By/Removed From: DAVID ST JOHN Print Sign	3/26/08 1230	Received By/Stored In: FED EX	
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Pick up and trans-ship RCF samples with these sample sets.

(1) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}

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

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

7184 JK 3/27/08

Client: W.C. HANFORD City RICHLAND State WA

Date/Time received 03/27/08 09:00 CoC No. RC-012-015

Container I.D. No. ERC-99-046 Requested TAT (Days) 15 P.O. Received Yes [ ] No [ ]

INSPECTION

1. Custody seals on shipping container intact? Yes [Y] No [ ] N/A [ ]
2. Custody seals on shipping container dated & signed? Yes [Y] 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: 12 Sample Matrix OTHER 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 [Y]
11. Samples are: In good condition [X] Leaking [ ] Broken Container [ ] Missing [ ]
12. Samples are: Preserved [ ] Not preserved [ ] pH _____ Preservative _____
13. Describe any anomalies:
14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by MW Date: 03/27/08 Time: 10:30

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

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

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

LIONVILLE LABORATORY INC.

21 April 2008

RECEIVED APR 2008

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

Subject: Analytical Data Package

Dear Ms. Kessner:

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

LvLI Batch #	0803L827
SDG #	K1156
SAF #	RC-012
Date Received	3/27/08
# Samples	12
Matrix	OTHER LIQUID
Volatiles	
Semivolatiles	
Pest/PCB	X
Glycols	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	
Inorganics	X

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

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager

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

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

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-012 K1156

RECEIVED
APR 2008

DATE RECEIVED: 03/27/08 LVL LOT # :0803L827

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16HW4						
TOTAL HALIDES	001	OI	08LE003	03/20/08	04/02/08	04/03/08
J16HW5						
TOTAL HALIDES	002	OI	08LE003	03/20/08	04/02/08	04/03/08
J16HW6						
TOTAL HALIDES	003	OI	08LE003	03/20/08	04/03/08	04/04/08
J16HW7						
TOTAL HALIDES	004	OI	08LE003	03/20/08	04/03/08	04/04/08
J16HW8						
TOTAL HALIDES	005	OI	08LE003	03/20/08	04/03/08	04/04/08
J16HW9						
TOTAL HALIDES	006	OI	08LE003	03/20/08	04/03/08	04/04/08
J16HX0						
TOTAL HALIDES	007	OI	08LE003	03/20/08	04/03/08	04/04/08
J16HX1						
TOTAL HALIDES	008	OI	08LE003	03/20/08	04/03/08	04/04/08
J16HX2						
TOTAL HALIDES	009	OI	08LE003	03/20/08	04/03/08	04/04/08
J16HX3						
TOTAL HALIDES	010	OI	08LE003	03/20/08	04/03/08	04/04/08

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-012 K1156

DATE RECEIVED: 03/27/08 LVL LOT # :0803L827

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16HX4						
TOTAL HALIDES	011	OI	08LE003	03/20/08	04/03/08	04/04/08
J16HX5						
TOTAL HALIDES	012	OI	08LE003	03/20/08	04/03/08	04/04/08
TOTAL HALIDES	012 MS	OI	08LE003	03/20/08	04/03/08	04/04/08
TOTAL HALIDES	012 MSD	OI	08LE003	03/20/08	04/03/08	04/04/08
LAB QC:						
TOTAL HALIDES	MB1	W	08LE003	N/A	04/03/08	04/04/08
TOTAL HALIDES	MB1 BS	W	08LE003	N/A	04/03/08	04/04/08

LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD RC-012 K1156
LVL#: 0803L827

W.O.#: 11343-606-001-9999-00
Date Received: 03-27-08

INORGANIC NARRATIVE

1. This narrative covers the analysis of 12 oil samples.

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

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

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

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

5. The method blank was within the method criteria.

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

7. The matrix spike recoveries were within the 75-125% control limits. The matrix spike duplicate was within the 20% Relative Percent Difference (RPD) control limit.

8. Results for Total Halides are reported on a wet weight basis.

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

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

4/10/08
Date

njp\i03-827

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 15 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~~ 9023	___ 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**

* Oil samples

L-WI-034/B-01/01

Lionville Laboratory Incorporated

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

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

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

ABBREVIATIONS

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

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

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

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

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

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

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

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

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

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

f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 04/10/08

CLIENT: TNUHANFORD RC-012 K1156 LVL LOT #: 0803L827

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J16HW4	Total Halides	133		MG/KG	76.9	1.0
-002	J16HW5	Total Halides	70.6		MG/KG	67.6	1.0
-003	J16HW6	Total Halides	72.4	u	MG/KG	72.4	1.0
-004	J16HW7	Total Halides	83.2	u	MG/KG	83.2	1.0
-005	J16HW8	Total Halides	71.1	u	MG/KG	71.1	1.0
-006	J16HW9	Total Halides	51.3	u	MG/KG	51.3	1.0
-007	J16HX0	Total Halides	527		MG/KG	79.6	1.0
-008	J16HX1	Total Halides	67.6	u	MG/KG	67.6	1.0
-009	J16HX2	Total Halides	77.1	u	MG/KG	77.1	1.0
-010	J16HX3	Total Halides	29.1	u	MG/KG	29.1	1.0
-011	J16HX4	Total Halides	58.3	u	MG/KG	58.3	1.0
-012	J16HX5	Total Halides	72.2	u	MG/KG	72.2	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/10/08

CLIENT: TNUHANFORD RC-012 K1156 LVL LOT #: 0803L827

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

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	08LE003-MB1	Total Halides	8.0	u	MG/KG	8.0	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 04/10/08

CLIENT: TNUHANFORD RC-012 K1156

LVL LOT #: 0803L827

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-012	J16HX5	Total Halides	5540	19.6	5580	99.0	1.0
		Total Halides	4100	19.6	4190	97.5	1.0
BLANK1	08LE003-MB1	Total Halides	497	8.0 u	500	99.4	1.0

Lionville Laboratory, Inc.

INORGANICS DUPLICATE SPIKE REPORT 04/10/08

CLIENT: TNUHANFORD RC-012 K1156 LVL LOT #: 0803L827

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

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
-012	J16HX5	Total Halides	99.0	97.5	1.5

ville Laboratory Use Only

08031827

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

000000010

t: TNX HANFORD SAF# RC-012

Final Proj. Sampling Date

ct#: 1134 3-606-001-9999

ct Contact/Phone#

lle Laboratory Project Manager: O. JOHNSON

Del: STD TAT: 15 Day

Rec'd: 3/27/08 Date Due: 4-11-08

Refrigerator #				A													
#/Type Container	Liquid			3													
	Solid			1G													
Volume				125 ASP													
Preservatives																	
ANALYSES REQUESTED		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb	TPH			Metal	CN							

	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only: Pest/PCB	Herb	TPH								
	001	J16 H W4			OTL	3-2008	1515	X		X								
	002	5					1525	X		X								
	003	6					1540	X		X								
	004	7					1550	X		X								
	005	8					1600	X		X								
	006	9					1620	X		X								
	007	X0					1635	X		X								
	008	1					1650	X		X								
	009	2					1700	X		X								
	010	3					1715	X		X								

ial Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	3/27/08	0935

Relinquished by	Received by	Date	Time

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

ville Laboratory Use Only
03L827

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

t: The Hanford
Final Proj. Sampling Date
ct#
ct Contact/Phone#
ille Laboratory Project Manager: See page 1
Del TAT
Rec'd Date Due

Refrigerator #				A 3												
#/Type Container	Liquid / Solid			16												
Volume				125												
Preservatives																
ANALYSES REQUESTED →		ORGANIC: VOA	BNA	Pest/PCB	Herb	TOX			INORG: Metal	CN						
		Lionville Laboratory Use Only														
				OPCB		ITX										

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	OPCB	ITX
011	J16HX4			OIL	3-24-08	1725	X	X
012	L 5			L	L	1735	X	X

X
Bt
oil
sediment
solid
sludge
water
oil
air
rum
solids
rum
liquids
P/TCLP
leachate
ipe
other
sh

ial Instructions:

Special Instructions:

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

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	3/27/08	0935

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

000000011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-012-015	Page 1 of 3

ollector Edmundson/Isom/Perry	Company Contact Tom Edmundson	Telephone No. 376-4058	Project Coordinator KESSNER, JH
roject Designation 100-N Ancillary Facilities & 190-DR Waste Characterization	Sampling Location 1330-N Waste Pad		SAF No. RC-012
e Chest No. ERC-96-511	Field Logbook No. EL-1516-12	COA RD4MXX2F00	Method of Shipment Fed Ex
hipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A080206		Bill of Lading/Air Bill No. See OSPC

Price Code

Data Turnaround
15 Days

000000012

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Rad

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C					
Type of Container	aG	aGs*	G/P	G/P	G/P	Gs*					
No. of Container(s)	1	0	1	1	1	1					
Volume JRE 3-20-08	~~1000mL~~ 125 ml	~~200mL~~ 125 ml	500mL	500mL	1000mL	60mL					
SAMPLE ANALYSIS	PCBs - 8082	TOX - 9020	Gross Alpha	Gross Beta	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015 (Ethylene glycol)					
				JRE 3-20-08							

Sample No.	Matrix *	Sample Date	Sample Time										
6HW4	OTHER LIQUID	3-20-08	1515	✓	✓								
6HW5	OTHER LIQUID	3-20-08	1525	✓	✓								
6HW6	OTHER LIQUID	3-20-08	1540	✓	✓								
6HW7	OTHER LIQUID	3-20-08	1550	✓	✓								
6HW8	OTHER LIQUID	3-20-08	1600	✓	✓								

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JR Edmundson	3-20-08 2140	1060 Battelle #1B	3-20-08 2140
60 BATELLE 1B	3/26/08 1230	DAVID STUDHM	3/26/08 1230
DAVID STUDHM	3/26/08 1230	FED EX	
Fed Ex	3-27-08 0935	V. Kennedy	3-27-08 0935

SPECIAL INSTRUCTIONS

Pick up and trans-ship RCF samples with these sample sets.

(1) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154 Europium-155)

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

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-012-015 | Page 2 of 2

Collector: Edmundson/Isom/Perry	Company Contact: Tom Edmundson	Telephone No.: 376-4058	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: 15 Days		
Project Designation: 100-N Ancillary Facilities & 190-DR Waste Characterization	Sampling Location: 1330-N Waste Pad		SAF No.: RC-012
Ice Chest No.: ERC-96-511	Field Logbook No.: EL-1516-12	COA: RD4MXX2F00	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES, CLONVILLE	Offsite Property No.: A080206		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A Non Rad

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C					
Type of Container	aG	aGs*	G/P	G/P	G/P	Gs*					
No. of Container(s)	1	0	1	1	1	1					
Volume JRE 3-20-08	~~1000mL~~ 125ml	~~200mL~~ 125ml	500mL	500mL	1000mL	60mL					
SAMPLE ANALYSIS	PCBs - 8082	TOX - 9020	Gross Alpha	Gross Beta JRE 3-20-08	See item (1) in Special Instructions	Alcohols, Glycols, & Ketones - 8015 (Ethylene glycol)					
Sample No. / Matrix * / Sample Date / Sample Time											
6HW9 / OTHER LIQUID / 3-20-08 / 1620	✓	✓									
6HX0 / OTHER LIQUID / 3-20-08 / 1635	✓	✓									
6HX1 / OTHER LIQUID / 3-20-08 / 1650	✓	✓									
6HX2 / OTHER LIQUID / 3-20-08 / 1700	✓	✓									
6HX3 / OTHER LIQUID / 3-20-08 / 1715	✓	✓									

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	JR Edmundson	3-20-08 2100	1060 Battelle #2C	3-20-08 2100
Relinquished By/Removed From	1060 BATELLE 2C	3/26/08 1230	DAVID ST JOHN	3/26/08 1230
Relinquished By/Removed From	DAVID ST JOHN	3/26/08 1230	FED EX	
Relinquished By/Removed From	FED EX	3-27-08 0935		3-27-08 0935
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

Pick up and trans-ship RCF samples with these sample sets.

(1) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155)

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

000000013

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-012-015	Page 2 of 2

Collector: Edmundson/Isom/Perry	Company Contact: Tom Edmundson	Telephone No.: 376-4058	Project Coordinator: KESSNER, JH
Project Designation: 100-N Ancillary Facilities & 190-DR Waste Characterization	Sampling Location: 1330-N Waste Pad		SAF No.: RC-012
Ice Chest No.: ERC-96-511	Field Logbook No.: EL-1516-12	COA: RD4MXX2F00	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080206		Bill of Lading/Air Bill No.: See OSPC

Price Code:

Data Turnaround: 15 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A Non Rad

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C					
Type of Container	aG	aGs*	G/P	G/P	G/P	Gs*					
No. of Container(s)	1	0	1	1	1	1					
Volume	~~1000mL~~ 125ml	~~250mL~~ 125ml	500mL	500mL	1000mL	60mL					
SAMPLE ANALYSIS	PCBs - 8082	TOX - 9020	Gross Alpha	Gross Beta	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015 (Ethylene glycol)					
				IRS 3-20-08							

Sample No.	Matrix *	Sample Date	Sample Time										
16HX4	OTHER LIQUID	3-20-08	1725	✓	✓								
16HX5	OTHER LIQUID	3-20-08	1735	250 ml. ✓	✓								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
T.R. Edmundson	3-20-08 2100	1060 Battelle #2C	3-20-08 2100
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
260 BATELLE 2C	3/26/08 1230	DAVID ST JOHN	3/26/08 1230
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
DAVID ST JOHN	3/26/08 1230	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
FED EX	3-27-08 0935		3-27-08 0935
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Pick up and trans-ship RCF samples with these sample sets.

(1) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154 Europium-155)

Matrix *

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

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

CH-EE-011

000000014

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD
Project/SAP/SOW/Release #: RC-12

Date: 3/27/08

LvLI Batch #: 0803L827

Sample Custodian: V. Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7918 7358 1123
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 3.3	°C	Cooler # ERC-96-511
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.

RECEIVED
APR 2008

Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RC-012 K1156

DATE RECEIVED: 03/27/08 LVL LOT # :0803L827

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J16HW4	001	OI	08LE0161	03/20/08	04/06/08	04/07/08
J16HW4	001 MS	OI	08LE0161	03/20/08	04/06/08	04/07/08
J16HW4	001 MSD	OI	08LE0161	03/20/08	04/06/08	04/07/08
J16HW5	002	OI	08LE0161	03/20/08	04/06/08	04/07/08
J16HW6	003	OI	08LE0161	03/20/08	04/06/08	04/08/08
J16HW7	004	OI	08LE0161	03/20/08	04/06/08	04/08/08
J16HW8	005	OI	08LE0161	03/20/08	04/06/08	04/08/08
J16HW9	006	OI	08LE0161	03/20/08	04/06/08	04/08/08
J16HX0	007	OI	08LE0161	03/20/08	04/06/08	04/08/08
J16HX1	008	OI	08LE0161	03/20/08	04/06/08	04/08/08
J16HX2	009	OI	08LE0161	03/20/08	04/06/08	04/08/08
J16HX3	010	OI	08LE0161	03/20/08	04/06/08	04/08/08
J16HX4	011	OI	08LE0161	03/20/08	04/06/08	04/08/08
J16HX5	012	OI	08LE0161	03/20/08	04/06/08	04/08/08

LAB QC:

PBLKOV	MB1	S	08LE0161	N/A	04/06/08	04/07/08
PBLKOV	MB1 BS	S	08LE0161	N/A	04/06/08	04/07/08

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RC-012
LVL #: 0802L827
SDG/SAF # K1156 / RC-012

W.O. #: 11343-606-001-9999-00
Date Received: 03-27-2008

PCB

Twelve (12) oil samples were collected on 03-20-2008.

The samples and their associated QC samples were extracted on 04-06-2008 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 04-07,08-2007. The extraction procedure was based on method 3580A (waste dilution – 1g into 10 mLs Hexane and the extracts were analyzed based on method 8082.

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

1. Samples were extracted and analyzed within required holding time
2. The samples and their associated QC samples received Silica Gel, Copper-Sulfur and Sulfuric Acid cleanups according to Lionville Laboratory SOPs based on SW846 methods 3630C, 3660A and 3665A respectively.
3. The method blank was below the reporting limits for all target compounds.
4. All surrogate recoveries were within acceptance criteria.
5. All blank spike recoveries were within acceptance criteria.
6. All matrix spike recoveries were within acceptance criteria.
3. Due to the matrix, samples J16HW4, J16HW4 MS, J16HW4 MSD, J J16HW5, J16HW6, J16HW7, J16HW8, 16HW9, J16HX0, J16HX1, J16HX2, J16HX3, J16HX4, and J16HX5 required a 5-fold dilution.
7. The initial calibrations associated with this data set were within acceptance criteria.

k:\group\data\pest\tnu\0803-827ko2.pcb.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 13 pages.

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

9. The results for oil samples were reported on an 'as-received basis' as required by the project.

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

4/14/08
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.

000000005

	Cust ID:	J16HW4	J16HW4	J16HW4	J16HW5	J16HW6	J16HW7
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	OIL	OIL	OIL	OIL	OIL	OIL
	D.F.:	5.00	5.00	5.00	5.00	5.00	5.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	86 %	96 %	96 %	81 %	97 %	91 %
	Decachlorobiphenyl	64 %	66 %	65 %	73 %	67 %	74 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		2000 U	95 %	95 %	2000 U	2000 U	2000 U
Aroclor-1221		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1232		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1242		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1248		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1254		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1260		2000 U	86 %	87 %	2000 U	2000 U	2000 U

	Cust ID:	J16HW8	J16HW9	J16HX0	J16HX1	J16HX2	J16HX3
Sample Information	RFW#:	005	006	007	008	009	010
	Matrix:	OIL	OIL	OIL	OIL	OIL	OIL
	D.F.:	5.00	5.00	5.00	5.00	5.00	5.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	80 %	89 %	85 %	86 %	91 %	92 %
	Decachlorobiphenyl	69 %	78 %	79 %	78 %	66 %	56 %
		fl	fl	fl	fl	fl	fl
Aroclor-1016		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1221		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1232		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1242		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1248		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1254		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Aroclor-1260		2000 U	2000 U	2000 U	2000 U	2000 U	2000 U

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

000000006

	Cust ID:	J16HX4	J16HX5	PBLKOV	PBLKOV BS
Sample Information	RFW#:	011	012	08LE0161-MB1	08LE0161-MB1
	Matrix:	OIL	OIL	SOIL	SOIL
	D.F.:	5.00	5.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	90 %	87 %	94 %	97 %
	Decachlorobiphenyl	57 %	55 %	108 %	110 %
Aroclor-1016		2000 U	2000 U	400 U	87 %
Aroclor-1221		2000 U	2000 U	400 U	400 U
Aroclor-1232		2000 U	2000 U	400 U	400 U
Aroclor-1242		2000 U	2000 U	400 U	400 U
Aroclor-1248		2000 U	2000 U	400 U	400 U
Aroclor-1254		2000 U	2000 U	400 U	400 U
Aroclor-1260		2000 U	2000 U	400 U	99 %

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.

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 04/06/08 Extraction Batch No: 08LE0161 Analyst: MF Method: ****

Test: OPCB Cleanup Date: 04/06/08 Analyst: MF Client: TNUHANFORD RC-012 K1156

LIMS Report Date: 04/07/08 Solvent: HEXANE Adsorbent: SILAC

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
0803L827-	TNUHANFORD RC-012 K1156										
001	J16HW4		1.0	1.0		10		1.0	N	0.0	10000
001 -S	J16HW4		1.0	1.0	1.0	10		1.0	N	0.0	10000
001 -T	J16HW4		1.0	1.0	1.0	10		1.0	N	0.0	10000
002	J16HW5		1.0	1.0		10		1.0	N	0.0	10000
003	J16HW6		1.0	1.0		10		1.0	N	0.0	10000
004	J16HW7		1.0	1.0		10		1.0	N	0.0	10000
005	J16HW8		1.0	1.0		10		1.0	N	0.0	10000
006	J16HW9		1.0	1.0		10		1.0	N	0.0	10000
007	J16HX0		1.0	1.0		10		1.0	N	0.0	10000
008	J16HX1		1.0	1.0		10		1.0	N	0.0	10000
009	J16HX2		1.0	1.0		10		1.0	N	0.0	10000
010	J16HX3		1.0	1.0		10		1.0	N	0.0	10000
011	J16HX4		1.0	1.0		10		1.0	N	0.0	10000
012	J16HX5		1.0	1.0		10		1.0	N	0.0	10000
08LE0161-MB1	PBLKOV		1.0	1.0		10		1.0	N	100.00	10000
08LE0161-MB1 -S	PBLKOV		1.0	1.0	1.0	10		1.0	N	100.00	10000

Comments:
Surrogate: 250 UL OLM PSURR 89916405
Spike: 250 UL AR1660 89916602

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
[illegible]	[illegible]	4/7/08 1520	SZ	4/7/08 15:15	GC

000000007

ville Laboratory Use Only
08031827

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

t: TNU HANFORD SAFY RC-012
Final Proj. Sampling Date
ct#: 11343-606-001-9999
ct Contact/Phone#
ville Laboratory Project Manager: O. JOHNSON
S40846 Del: SHL TAT: 15 Day
Rec'd: 3/27/08 Date Due: 4-11-08

Refrigerator #				A													
#/Type Container	Liquid			3													
	Solid			16													
Volume				125 250													
Preservatives																	
ANALYSES REQUESTED →		ORGANIC							INORG								
		VOA	BNA	Pest/PCB	Herb	TOX			Metal	CN							
				OPCB		ITX											

Lionville Laboratory Use Only

Matrix: WW, SW, Soil, Sediment, Solid, Sludge, Water, Oil, Air, Drum Solids, Drum Liquids, TCLP, Leachate, Wipe, Other, Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	OPCB	ITX
001	J16 H W14			WL	3-2008	1515	X	X
002	5					1525	X	X
003	6					1540	X	X
004	7					1550	X	X
005	8					1600	X	X
006	9					1620	X	X
007	X0					1635	X	X
008	1					1650	X	X
009	2					1700	X	X
010	3					1715	X	X

cial Instructions:

Special Instructions:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	3/27/08	0935

Relinquished by	Received by	Date	Time

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

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ville Laboratory Use Only
03L827

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

LVLI

t 7Nu Hanford
Final Proj. Sampling Date
ct#
ct Contact/Phone#
ville Laboratory Project Manager
Del TAT

Rec'd Date Due

Refrigerator #				A 3												
#/Type Container	Liquid			1G												
	Solid															
Volume				125												
Preservatives																
ANALYSES REQUESTED		ORGANIC							INORG							
		VOA	BNA	Pest/PCB	Herb	TPH			Metal	CN						
		Lionville Laboratory Use Only														
				OPCB		IFX										

TX
BI
Soil
Sediment
Solid
Sludge
Water
Oil
Air
Drum
Solids
Drum
Liquids
EP/TCLP
Leachate
Wipe
Other
Ash

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	OPCB	IFX
011	J16HX4			OIL	3-24-08	1725	X	X
012	L 5			L	L	1735	X	X

cial Instructions:

Special Instructions:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	3/27/08	0935

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-012-015	Page 1 of 3

Collector: Edmundson/Isom/Perry	Company Contact: Tom Edmundson	Telephone No.: 376-4058	Project Coordinator: KESSNER, JH
Price Code	Data Turnaround: 15 Days		
Project Designation: 100-N Ancillary Facilities & 190-DR Waste Characterization	Sampling Location: 1330-N Waste Pad		SAF No.: RC-012
Ice Chest No.: ERC-96-511	Field Logbook No.: EL-1516-12	COA: RD4MXX2F00	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: 4080206		Bill of Lading/Air Bill No.: See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Rad

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C					
Type of Container	aG	aGs*	G/P	G/P	G/P	Gs*					
No. of Container(s)	1	0	1	1	1	1					
Volume JRE 3-20-08	~~1000mL~~ 125mL	~~200mL~~ 125mL	500mL	500mL	1000mL	60mL					
SAMPLE ANALYSIS	PCBs - 8082	TOX - 9020	Gross Alpha	Gross Beta JRE 3-20-08	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015 (Ethylene glycol)					
Sample No. / Matrix * / Sample Date / Sample Time											
116HW4 / OTHER LIQUID / 3-20-08 / 1515	✓	✓									
116HW5 / OTHER LIQUID / 3-20-08 / 1525	✓	✓									
116HW6 / OTHER LIQUID / 3-20-08 / 1540	✓	✓									
116HW7 / OTHER LIQUID / 3-20-08 / 1550	✓	✓									
116HW8 / OTHER LIQUID / 3-20-08 / 1600	✓	✓									

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	JR Edmundson	3-20-08 2140	1060 Battelle #1B	3-20-08 2140
Relinquished By/Removed From	1060 BATELLE 1B	3/26/08 1230	DAVID STURDIVANT	3/26/08 1230
Relinquished By/Removed From	DAVID STURDIVANT	3/26/08 1230	FED EX	
Relinquished By/Removed From	Fed Ex	3-27-08 0935	C. Kennedy	3-27-08 0935
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

Pick up and trans-ship RCF samples with these sample sets.

(1) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154 Europium-155)

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

000000010

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-012-015 Page 1 of 2

Collector: Edmundson/Isom/Perry	Company Contact: Tom Edmundson	Telephone No.: 376-4058	Project Coordinator: KESSNER, JH
Project Designation: 100-N Ancillary Facilities & 190-DR Waste Characterization	Sampling Location: 1330-N Waste Pad		SAF No.: RC-012
Ice Chest No.: ERC-96-511	Field Logbook No.: EL-1516-12	COA: RD4MXX2F00	Method of Shipment: Fed Ex
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A080206		Bill of Lading/Air Bill No.: See OSPC

Price Code:

Data Turnaround: 15 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A Non Rad

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C				
Type of Container	aG	aGs*	G/P	G/P	G/P	Gs*				
No. of Container(s)	1	0	1	1	1	1				
Volume SRE 3-20-08	~~1000mL~~ 125ml	~~200mL~~ 125ml	500mL	500mL	1000mL	60mL				
SAMPLE ANALYSIS	PCBs - 8082	TOX - 9020	Gross Alpha	Gross Beta SRE 3-20-08	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015 (Ethylene glycol)				

Sample No.	Matrix *	Sample Date	Sample Time									
16HW9	OTHER LIQUID	3-20-08	1620	✓	✓							
16HX0	OTHER LIQUID	3-20-08	1635	✓	✓							
16HX1	OTHER LIQUID	3-20-08	1650	✓	✓							
16HX2	OTHER LIQUID	3-20-08	1700	✓	✓							
16HX3	OTHER LIQUID	3-20-08	1715	✓	✓							

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J R Edmundson	3-20-08 2100	1060 Battelle #2C	3-20-08 2100
1060 BATELLE 2C	3/26/08 1230	DAVID ST JOHN	3/26/08 1230
DAVID ST JOHN	3/26/08 1230	FED EX	
FED EX	3-27-08 0935		3-27-08 0935

SPECIAL INSTRUCTIONS

Pick up and trans-ship RCF samples with these sample sets.

(1) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155)

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

000000011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-012-015	Page 3 of 3
ollector: Edmundson/Isom/Perry	Company Contact: Tom Edmundson; Telephone No.: 376-4058	Project Coordinator: KESSNER, JH	Price Code / Data Turnaround: 15 Days
oject Designation: 100-N Ancillary Facilities & 190-DR Waste Characterization	Sampling Location: 1330-N Waste Pad	SAF No.: RC-012	
e Chest No.: ERC-96-511	Field Logbook No.: EL-1516-12; COA: RD4MXX2F00	Method of Shipment: Fed Ex	
ipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A080206	Bill of Lading/Air Bill No.: See OSPC	

OSSIBLE SAMPLE HAZARDS/REMARKS

N/A Non Rad

pecial Handling and/or Storage

Cool 4°c

Preservation	Cool 4C	Cool 4C	None	None	None	Cool 4C					
Type of Container	aG	aGs*	G/P	G/P	G/P	Gs*					
No. of Container(s)	1	0	1	1	1	1					
Volume	~~1000mL~~ 125 ml	~~200mL~~ 125 ml	500mL	500mL	1000mL	60mL					
SAMPLE ANALYSIS	PCBs - 8082	TOX - 9020	Gross Alpha	Gross Beta	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015 (Ethylene glycol)					

JRE 3-20-08

Sample No.	Matrix *	Sample Date	Sample Time										
16HX4	OTHER LIQUID	3-20-08	1725	✓	✓								
16HX5	OTHER LIQUID	3-20-08	1735	250 ml. ✓	✓								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible] Edmundson	3-20-08 2100	1060 Battelle #2C	3-20-08 2100
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
060 BATELLE 2C	3/26/08 1230	David St John	3/26/08 1230
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
David St John	3/26/08 1230	FED EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
FED EX	3-27-08 0935	[illegible]	3-27-08 0935
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Pick up and trans-ship RCF samples with these sample sets.

(1) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155)

Matrix *

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

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

/CH-EE-011

000000012

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD

Project/SAP/SOW/Release #: RC-12

Date: 3/27/08

LvLI Batch #: 08036 827

Sample Custodian: [illegible]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 7918 7358 1123
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 3.3	°C	Cooler # ERC-96-511
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.