AR TARGET SHEET

The following document was too large to scan as one unit, therefore, it has been broken down into sections.

EDMC#: 0069074
SECTION: 1 OF 5

DOCUMENT #: K0192

TITLE: Data Package

SAF-RC-048
100 Area and 300 Area Component of the RCBRA Water Sampling
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Jill Thomson	H0-23	_KW 3/15/06_ INITIAL/DATE
Jeanette Duncan	H9-02	_KW 3/15//06_ INITIAL/DATE

COMMENTS:

SDG K0192 **SAF-RC-048**

Rad only Chem only X Rad & Chem

X Complete Partial

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2006

March 13, 2006

Ms. Joan Kessner
Washington Closure Hanford
3190 George Washington Way
MSIN H9-02
Richland, WA 99352

Reference: **P.O. #630**
Eberline Services R6-01-164-7369 & R6-01-179-7371, SDG K0192

Dear Ms. Kessner:

Enclosed are two data reports for a total of twenty-six water samples designated under SAF No. RC-048. The samples were received at Eberline Services between January 24 and 27, 2006. The samples were analyzed according to the accompanying chain-of-custody documents.

Please call if you have any questions concerning this report.

Sincerely,

Melissa C. Mannion
Senior Program Manager

MCM/njv

Enclosure: Data Package

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

1.0 GENERAL

Washington Closure Hanford (WCH) Sample Delivery Group K0192 was composed of twenty-six water samples designated under SAF No. RC-048 with a Project Designation of: 100 Area and 300 Area Component of the RCBRA Water Sa.

The samples were received as stated on the Chain-of-Custody documents. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist. All results were transmitted to WCH via e-mail on March 13, 2006.

2.0 ANALYSIS NOTES

2.1 Tritium Analysis

No problems were encountered during the course of the analyses.

2.2 Carbon-14 Analysis

No problems were encountered during the course of the analyses.

2.3 Total Strontium Analysis

No problems were encountered during the course of the analyses.

2.4 Radium-226 Analysis

No problems were encountered during the course of the analyses.

2.5 Radium-228 Analysis

Samples J111Y8, and J111X5 contained a long-lived beta activity; this activity was not removed by the applied chemistry procedures. In order to produce Ra-228 results the raw counts were reduced by a Sr90-Y90 analysis program using a linear regression equation.

No problems were encountered during the course of the analyses.

2.6 Isotopic Thorium Analysis

No problems were encountered during the course of the analyses.

2.7 Isotopic Uranium Analysis

No problems were encountered during the course of the analyses.

2.8 Gamma Spectroscopy

No problems were encountered during the course of the analyses.

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 C. Mannion
Senior Program Manager

8/13/6
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 K0192

SDG	7369
Contact	Melissa C. Mannion

Client	Hanford
Contract	No. 630
Case no	SDG_K0192

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

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Prepared by

Reviewed by

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	03/13/06

SDG 7369
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_K0192

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 03/13/06

SDG 7369
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG K0192

ABOUT THE DATA SUMMARY SECTION

DUPLICATES

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

MATRIX SPIKES

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

DATA SHEETS

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

METHOD SUMMARIES

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

REPORT GUIDES

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7369
Contact Melissa C. Mannion

SAMPLE SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0192

CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	LAB SAMPLE ID	SAF NO	CHAIN OF CUSTODY	COLLECTED
J111K4	U-5,Pore Water,Full QC	WATER		R601164-01	RC-048	RC-048-144	01/19/06 10:00
J111K8	U-5,SurfaceWater,Full QC	WATER		R601164-02	RC-048	RC-048-148	01/19/06 09:00
J111L2	U-6, Pore Water	WATER		R601164-03	RC-048	RC-048-151	01/19/06 12:30
J111L3	U-7, Pore Water	WATER		R601164-04	RC-048	RC-048-155	01/19/06 14:00
J111L4	U-8, Pore Water	WATER		R601164-05	RC-048	RC-048-156	01/22/06 11:00
J111L5	U-9, Pore Water	WATER		R601164-06	RC-048	RC-048-157	01/22/06 13:00
J111N2	U-6, Surface Water	WATER		R601164-07	RC-048	RC-048-171	01/19/06 11:30
J111N3	U-7, Surface Water	WATER		R601164-08	RC-048	RC-048-172	01/19/06 13:30
J111N4	U-8, Surface Water	WATER		R601164-09	RC-048	RC-048-173	01/22/06 10:00
J111N5	U-9, Surface Water	WATER		R601164-10	RC-048	RC-048-174	01/22/06 12:30
J111W3	Ref-12, Pore Water	WATER		R601164-11	RC-048	RC-048-196	01/23/06 14:30
J111X0	Ref-13, Pore Water	WATER		R601164-12	RC-048	RC-048-197	01/23/06 12:45
J111X5	Ref-12, Surface Water	WATER		R601164-13	RC-048	RC-048-208	01/23/06 14:00
J111X6	Ref-13, Surface Water	WATER		R601164-14	RC-048	RC-048-209	01/23/06 12:00
Method Blank		WATER		R601164-16	RC-048		
Method Blank		WATER		R601164-20	RC-048		
Lab Control Sample		WATER		R601164-15	RC-048		
Lab Control Sample		WATER		R601164-19	RC-048		
Duplicate (R601164-01)	U-5,Pore Water,Full QC	WATER		R601164-17	RC-048		01/19/06 10:00
Spike (R601164-01)	U-5,Pore Water,Full QC	WATER		R601164-18	RC-048		01/19/06 10:00

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SDG 7369
Contact Melissa C. Mannion

SAMPLE DELIVERY GROUP K0192

QC SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0192

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7369	RC-048-144	J111K4	WATER		5 L		01/24/06	5	R601164-01	7369-001
	RC-048-148	J111K8	WATER		5 L		01/24/06	5	R601164-02	7369-002
	RC-048-151	J111L2	WATER		5 L		01/24/06	5	R601164-03	7369-003
	RC-048-155	J111L3	WATER		5 L		01/24/06	5	R601164-04	7369-004
	RC-048-156	J111L4	WATER		5 L		01/24/06	2	R601164-05	7369-005
	RC-048-157	J111L5	WATER		5 L		01/24/06	2	R601164-06	7369-006
	RC-048-171	J111N2	WATER		5 L		01/24/06	5	R601164-07	7369-007
	RC-048-172	J111N3	WATER		5 L		01/24/06	5	R601164-08	7369-008
	RC-048-173	J111N4	WATER		5 L		01/24/06	2	R601164-09	7369-009
	RC-048-174	J111N5	WATER		5 L		01/24/06	2	R601164-10	7369-010
	RC-048-196	J111W3	WATER		5 L		01/26/06	3	R601164-11	7369-011
	RC-048-197	J111X0	WATER		5 L		01/26/06	3	R601164-12	7369-012
	RC-048-208	J111X5	WATER		5 L		01/26/06	3	R601164-13	7369-013
	RC-048-209	J111X6	WATER		5 L		01/26/06	3	R601164-14	7369-014
		Method Blank	WATER						R601164-16	7369-016
		Method Blank	WATER						R601164-20	7369-020
		Lab Control Sample	WATER						R601164-15	7369-015
		Lab Control Sample	WATER						R601164-19	7369-019
		Duplicate (R601164-01)	WATER		5 L		01/24/06	5	R601164-17	7369-017
		Spike (R601164-01)	WATER		5 L		01/24/06	5	R601164-18	7369-018

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7369
Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0192

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Alpha Spectroscopy												
TH	WATER	Thorium, Isotopic in Water	7131-048	5.0	14			1	1	1/1		
U	WATER	Uranium, Isotopic in Water	7131-048	5.0	14			1	1	1/1		
Beta Counting												
AC	WATER	Radium 228 in Water	7131-048	5.0	8			1	1	1/1		
			7131-048B	5.0	6			1	1			
SR	WATER	Total Strontium in Water	7131-048	10.0	14			1	1	1/1		
Gamma Scan												
GAM	WATER	Gamma Emitters	7131-048	15.0	14			1	1	1/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	7131-048	10.0	14			1	1	1/1	1/1	X
Radon Counting												
RA	WATER	Radium 226 in Water	7131-048	5.0	14			1	1	1/1		

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

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7369
Contact Melissa C. Mannion

WORK SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0192

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
J111K4			R601164-01	7369-001	AC		02/28/06	03/02/06	MWT	Radium 228 in Water
U-5,Pore Water,Full QC		WATER	01/19/06	7369-001	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
RC-048-144	RC-048		01/24/06	7369-001	H		03/03/06	03/10/06	MWT	Tritium in Water
				7369-001	RA		02/28/06	03/02/06	MWT	Radium 226 in Water
				7369-001	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-001	TH		03/01/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-001	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
J111K8			R601164-02	7369-002	AC		02/28/06	03/02/06	MWT	Radium 228 in Water
U-5,SurfaceWater,Full QC		WATER	01/19/06	7369-002	GAM		02/17/06	02/22/06	CSS	Gamma Emitters
RC-048-148	RC-048		01/24/06	7369-002	H		03/03/06	03/10/06	MWT	Tritium in Water
				7369-002	RA		02/28/06	03/02/06	MWT	Radium 226 in Water
				7369-002	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-002	TH		02/27/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-002	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
J111L2			R601164-03	7369-003	AC		02/28/06	03/02/06	MWT	Radium 228 in Water
U-6, Pore Water		WATER	01/19/06	7369-003	GAM		02/17/06	02/22/06	CSS	Gamma Emitters
RC-048-151	RC-048		01/24/06	7369-003	H		03/03/06	03/10/06	MWT	Tritium in Water
				7369-003	RA		02/28/06	03/02/06	MWT	Radium 226 in Water
				7369-003	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-003	TH	R1	03/10/06	03/10/06	MWT	Thorium, Isotopic in Water
				7369-003	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
J111L3			R601164-04	7369-004	AC		02/28/06	03/02/06	MWT	Radium 228 in Water
U-7, Pore Water		WATER	01/19/06	7369-004	GAM		02/17/06	02/22/06	CSS	Gamma Emitters
RC-048-155	RC-048		01/24/06	7369-004	H		03/03/06	03/10/06	MWT	Tritium in Water
				7369-004	RA		02/28/06	03/02/06	MWT	Radium 226 in Water
				7369-004	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-004	TH		02/27/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-004	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
J111L4			R601164-05	7369-005	AC		02/28/06	03/02/06	MWT	Radium 228 in Water
U-8, Pore Water		WATER	01/22/06	7369-005	GAM		02/17/06	02/22/06	CSS	Gamma Emitters
RC-048-156	RC-048		01/24/06	7369-005	H		03/03/06	03/10/06	MWT	Tritium in Water
				7369-005	RA		02/28/06	03/02/06	MWT	Radium 226 in Water
				7369-005	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-005	TH		02/27/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-005	U		03/01/06	03/09/06	MWT	Uranium, Isotopic in Water

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CWS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7369
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K0192

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
J111L5			R601164-06	7369-006	AC		02/28/06	03/02/06	MWT	Radium 228 in Water
U-9, Pore Water		WATER	01/22/06	7369-006	GAM		02/17/06	02/22/06	CSS	Gamma Emitters
RC-048-157	RC-048		01/24/06	7369-006	H		03/03/06	03/10/06	MWT	Tritium in Water
				7369-006	RA		02/28/06	03/02/06	MWT	Radium 226 in Water
				7369-006	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-006	TH		03/07/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-006	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
J111N2			R601164-07	7369-007	AC		02/28/06	03/02/06	MWT	Radium 228 in Water
U-6, Surface Water		WATER	01/19/06	7369-007	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
RC-048-171	RC-048		01/24/06	7369-007	H		03/04/06	03/10/06	MWT	Tritium in Water
				7369-007	RA		02/28/06	03/02/06	MWT	Radium 226 in Water
				7369-007	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-007	TH		03/07/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-007	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
J111N3			R601164-08	7369-008	AC		02/28/06	03/02/06	MWT	Radium 228 in Water
U-7, Surface Water		WATER	01/19/06	7369-008	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
RC-048-172	RC-048		01/24/06	7369-008	H		03/04/06	03/10/06	MWT	Tritium in Water
				7369-008	RA		02/28/06	03/02/06	MWT	Radium 226 in Water
				7369-008	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-008	TH		03/07/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-008	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
J111N4			R601164-09	7369-009	AC		03/01/06	03/10/06	MWT	Radium 228 in Water
U-8, Surface Water		WATER	01/22/06	7369-009	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
RC-048-173	RC-048		01/24/06	7369-009	H		03/04/06	03/10/06	MWT	Tritium in Water
				7369-009	RA		02/28/06	03/02/06	MWT	Radium 226 in Water
				7369-009	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-009	TH		03/07/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-009	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
J111N5			R601164-10	7369-010	AC		03/01/06	03/10/06	MWT	Radium 228 in Water
U-9, Surface Water		WATER	01/22/06	7369-010	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
RC-048-174	RC-048		01/24/06	7369-010	H		03/04/06	03/10/06	MWT	Tritium in Water
				7369-010	RA		02/28/06	03/02/06	MWT	Radium 226 in Water
				7369-010	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-010	TH		03/07/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-010	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CWS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7369
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K0192

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
J111W3			R601164-11	7369-011	AC		03/01/06	03/10/06	MWT	Radium 228 in Water
Ref-12, Pore Water		WATER	01/23/06	7369-011	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
RC-048-196	RC-048		01/26/06	7369-011	H		03/04/06	03/10/06	MWT	Tritium in Water
				7369-011	RA		02/28/06	03/02/06	MWT	Radium 226 in Water
				7369-011	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-011	TH		03/07/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-011	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
J111X0			R601164-12	7369-012	AC		03/01/06	03/10/06	MWT	Radium 228 in Water
Ref-13, Pore Water		WATER	01/23/06	7369-012	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
RC-048-197	RC-048		01/26/06	7369-012	H		03/04/06	03/10/06	MWT	Tritium in Water
				7369-012	RA		03/01/06	03/02/06	MWT	Radium 226 in Water
				7369-012	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-012	TH		03/07/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-012	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
J111X5			R601164-13	7369-013	AC		03/01/06	03/10/06	MWT	Radium 228 in Water
Ref-12, Surface Water		WATER	01/23/06	7369-013	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
RC-048-208	RC-048		01/26/06	7369-013	H		03/04/06	03/10/06	MWT	Tritium in Water
				7369-013	RA		03/01/06	03/02/06	MWT	Radium 226 in Water
				7369-013	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-013	TH		03/07/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-013	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
J111X6			R601164-14	7369-014	AC		03/01/06	03/10/06	MWT	Radium 228 in Water
Ref-13, Surface Water		WATER	01/23/06	7369-014	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
RC-048-209	RC-048		01/26/06	7369-014	H		03/04/06	03/10/06	MWT	Tritium in Water
				7369-014	RA		03/01/06	03/02/06	MWT	Radium 226 in Water
				7369-014	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-014	TH		02/28/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-014	U		03/08/06	03/09/06	MWT	Uranium, Isotopic in Water
Method Blank			R601164-16	7369-016	AC		02/28/06	03/02/06	MWT	Radium 228 in Water
		WATER		7369-016	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
	RC-048			7369-016	H		03/04/06	03/10/06	MWT	Tritium in Water
				7369-016	RA		03/01/06	03/02/06	MWT	Radium 226 in Water
				7369-016	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-016	TH		03/07/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-016	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water

Lab id EBRLNE
Protocol Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7369
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K0192

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
Method Blank	RC-048	WATER	R601164-20	7369-020	AC		03/01/06	03/10/06	MWT	Radium 228 in Water
Lab Control Sample	RC-048	WATER	R601164-15	7369-015	AC		02/28/06	03/02/06	MWT	Radium 228 in Water
				7369-015	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
				7369-015	H		03/04/06	03/10/06	MWT	Tritium in Water
				7369-015	RA		03/01/06	03/02/06	MWT	Radium 226 in Water
				7369-015	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-015	TH		02/28/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-015	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
Lab Control Sample	RC-048	WATER	R601164-19	7369-019	AC		03/01/06	03/10/06	MWT	Radium 228 in Water
Duplicate (R601164-01) U-5,Pore Water,Full QC	RC-048	WATER	R601164-17 01/19/06 01/24/06	7369-017	AC		03/01/06	03/08/06	MWT	Radium 228 in Water
				7369-017	GAM		02/20/06	02/22/06	CSS	Gamma Emitters
				7369-017	H		03/04/06	03/10/06	MWT	Tritium in Water
				7369-017	RA		03/01/06	03/02/06	MWT	Radium 226 in Water
				7369-017	SR		02/27/06	03/03/06	MWT	Total Strontium in Water
				7369-017	TH		02/28/06	03/08/06	MWT	Thorium, Isotopic in Water
				7369-017	U		02/28/06	03/09/06	MWT	Uranium, Isotopic in Water
Spike (R601164-01) U-5,Pore Water,Full QC	RC-048	WATER	R601164-18 01/19/06 01/24/06	7369-018	H		03/04/06	03/10/06	MWT	Tritium in Water

Lab id EBRLNE
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7369
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K0192

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
AC	RC-048	Radium 228 in Water	RAISO_SEP_GPC	14			2	2	1		19
GAM	RC-048	Gamma Emitters	GAMMA_GS	14			1	1	1		17
H	RC-048	Tritium in Water	906.0_H3_LSC	14			1	1	1	1	18
RA	RC-048	Radium 226 in Water	903.1_RA226_LUC	14			1	1	1		17
SR	RC-048	Total Strontium in Water	SRTOT_SEP_PRECIP_GPC	14			1	1	1		17
TH	RC-048	Thorium, Isotopic in Water	THISO_IE_PLATE_AEA	14			1	1	1		17
U	RC-048	Uranium, Isotopic in Water	UISO_PLATE_AEA	14			1	1	1		17
TOTALS				98			8	8	7	1	122

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-16 **Method Blank**

METHOD BLANK

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-16	Client sample id	Method Blank
Dept sample id	7369-016	Material/Matrix	WATER
		SAF No	RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-732	1500	2600	400	U	H
Total Strontium	SR-RAD	0.043	0.30	0.59	2.0	U	SR
Radium 228	15262-20-1	-0.421	1.1	2.6	3.0	U	AC
Thorium 228	14274-82-9	0	0.068	0.26		U	TH
Thorium 230	14269-63-7	0	0.13	0.26	1.0	U	TH
Thorium 232	TH-232	0	0.067	0.26	1.0	U	TH
Uranium 233/234	U-233/234	0	0.098	0.37	1.0	U	U
Uranium 235	15117-96-1	0	0.12	0.45	1.0	U	U
Uranium 238	U-238	0	0.098	0.37	1.0	U	U
Radium 226	13982-63-3	-0.015	0.37	0.69	2.0	U	RA
Potassium 40	13966-00-2	U		260		U	GAM
Cobalt 60	10198-40-0	U		20	25	U	GAM
Cesium 137	10045-97-3	U		15	15	U	GAM
Radium 226	13982-63-3	U		32		U	GAM
Radium 228	15262-20-1	U		77		U	GAM
Europium 152	14683-23-9	U		40	50	U	GAM
Europium 154	15585-10-1	U		55	50	U	GAM
Europium 155	14391-16-3	U		41	50	U	GAM
Thorium 228	14274-82-9	U		27		U	GAM
Thorium 232	TH-232	U		77		U	GAM
Uranium 235	15117-96-1	U		57		U	GAM
Uranium 238	U-238	U		2100		U	GAM
Americium 241	14596-10-2	U		56		U	GAM
Ruthenium 106	13967-48-1	U		140		U	GAM
Antimony 125	14234-35-6	U		39		U	GAM
Beryllium 7	13966-02-4	U		120		U	GAM
Cesium 134	13967-70-9	U		18		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
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B L A N K , c o n t .

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-16	Client sample id	Method Blank
Dept sample id	7369-016	Material/Matrix	WATER
		SAF No	RC-048

QC-BLANK #56018

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-20 **Method Blank**

METHOD BLANK

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-20	Client sample id	Method Blank
Dept sample id	7369-020	Material/Matrix	WATER
		SAF No	RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Radium 228	15262-20-1	0.081	0.77	1.8	3.0	U	AC

100&300Area Component RCBRA Water Sa

QC-BLANK #56153

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-15 Lab Control Sample

LAB CONTROL SAMPLE

SDG 7369 Client/Case no Hanford SDG K0192
Contact Melissa C. Mannion Contract No. 630

Lab sample id R601164-15 Client sample id Lab Control Sample
Dept sample id 7369-015 Material/Matrix WATER
SAF No RC-048

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Tritium	22000	2200	2400	400		H	24500	980	90	80-120	80-120
Total Strontium	22.3	1.3	0.51	2.0		SR	21.6	0.86	103	81-119	80-120
Radium 228	19.8	1.3	1.9	3.0		AC	18.4	0.74	108	85-115	80-120
Thorium 230	21.8	2.7	0.21	1.0		TH	20.2	0.81	108	78-122	80-120
Uranium 233/234	18.8	1.9	0.85	1.0		U	19.3	0.77	97	82-118	80-120
Uranium 235	14.0	1.6	0.21	1.0		U	15.7	0.63	89	82-118	80-120
Uranium 238	19.4	2.0	0.82	1.0		U	21.0	0.84	92	83-117	80-120
Radium 226	125	4.0	0.77	2.0		RA	123	4.9	102	89-111	80-120
Cobalt 60	476	28	18	25		GAM	486	19	98	76-124	80-120
Cesium 137	528	27	19	15		GAM	494	20	107	74-126	80-120

100&3O0Area Component RCBRA Water Sa

QC-LCS #56017

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-19 Lab Control Sample

LAB CONTROL SAMPLE

SDG 7369 Client/Case no Hanford SDG K0192

Contact Melissa C. Mannion Contract No. 630

Lab sample id R601164-19 Client sample id Lab Control Sample

Dept sample id 7369-019 Material/Matrix WATER

SAF No RC-048

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Radium 228	21.2	1.6	1.7	3.0		AC	18.4	0.74	115	83-117	80-120

100&300Area Component RCBRA Water Sa

QC-LCS #56152

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-17 J111K4

DUPLICATE

SDG	7369			Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion			Contract	No. 630
	DUPLICATE		ORIGINAL		
Lab sample id	R601164-17	Lab sample id	R601164-01	Client sample id	J111K4
Dept sample id	7369-017	Dept sample id	7369-001	Location/Matrix	U-5,Pore Water,Full QC WATER
		Received	01/24/06	Collected/Volume	01/19/06 10:00 5 L
				Custody/SAF No	RC-048-144 RC-048

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	DER σ
Tritium	-90.6	140	250	400	U	H	31.1	150	250	U	-		1.2
Total Strontium	-0.075	0.34	0.71	2.0	U	SR	0.220	0.32	0.61	U	-		1.3
Radium 228	0.560	0.77	2.1	3.0	U	AC	0.569	0.78	2.1	U	-		0
Thorium 228	0.050	0.10	0.38		U	TH	-0.035	0.035	0.13	U	-		1.6
Thorium 230	-0.050	0.10	0.38	1.0	U	TH	-0.069	0.035	0.13	U	-		0.4
Thorium 232	0	0.10	0.38	1.0	U	TH	0.035	0.069	0.13	U	-		0.6
Uranium 233/234	9.49	1.4	0.33	1.0		U	9.49	1.2	0.31		0	31	0
Uranium 235	0.865	0.42	0.32	1.0		U	0.970	0.37	0.23		11	92	0.4
Uranium 238	8.20	1.3	0.33	1.0		U	8.34	1.1	0.28		2	33	0.2
Radium 226	0.067	0.36	0.66	2.0	U	RA	0.534	0.47	0.74	U	-		1.6
Potassium 40	U		120		U	GAM	U		280	U	-		1.0
Cobalt 60	U		12	25	U	GAM	U		16	U	-		0.4
Cesium 137	U		11	15	U	GAM	U		18	U	-		0.7
Radium 226	U		22		U	GAM	U		26	U	-		0.2
Radium 228	U		38		U	GAM	U		76	U	-		0.9
Europium 152	U		35	50	U	GAM	U		43	U	-		0.3
Europium 154	U		31	50	U	GAM	U		55	U	-		0.8
Europium 155	U		38	50	U	GAM	U		41	U	-		0.1
Thorium 228	U		18		U	GAM	U		23	U	-		0.3
Thorium 232	U		38		U	GAM	U		76	U	-		0.9
Uranium 235	U		54		U	GAM	U		59	U	-		0.1
Uranium 238	U		1200		U	GAM	U		1800	U	-		0.5
Americium 241	U		57		U	GAM	U		55	U	-		0
Ruthenium 106	U		110		U	GAM	U		130	U	-		0.2
Antimony 125	U		29		U	GAM	U		39	U	-		0.4
Beryllium 7	U		120		U	GAM	U		180	U	-		0.5
Cesium 134	U		14		U	GAM	U		21	U	-		0.5

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-17 J111K4

DUPLICATE, cont.

SDG 7369		Client/Case no Hanford	SDG K0192
Contact Melissa C. Mannion		Contract No. 630	
DUPLICATE	ORIGINAL		
Lab sample id R601164-17	Lab sample id R601164-01	Client sample id J111K4	
Dept sample id 7369-017	Dept sample id 7369-001	Location/Matrix U-5,Pore Water,Full QC	WATER
	Received 01/24/06	Collected/Volume 01/19/06 10:00	5 L
		Custody/SAF No RC-048-144	RC-048

QC-DUP#1 56019

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DUP
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-18 J111K4

MATRIX SPIKE

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
MATRIX SPIKE		ORIGINAL	
Lab sample id	R601164-18	Lab sample id	R601164-01
Dept sample id	7369-018	Dept sample id	7369-001
		Received	01/24/06
Client sample id	J111K4		
Location/Matrix	U-5,Pore Water,Full QC WATER		
Collected/Volume	01/19/06 10:00 5 L		
Custody/SAF No	RC-048-144 RC-048		

ANALYTE	SPIKE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	ORIGINAL pCi/L	2σ ERR (COUNT)	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Tritium	28700	620	250	400	X	H	29900	1200	31.1	150	96	84-116	60-140

100&300Area Component RCBRA Water Sa

QC-MS#1 56020

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-MS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-01 **J111K4**

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-01	Client sample id	J111K4
Dept sample id	7369-001	Location/Matrix	U-5,Pore Water,Full QC WATER
Received	01/24/06	Collected/Volume	01/19/06 10:00 5 L
		Custody/SAF No	RC-048-144 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	31.1	150	250	400	U	H
Total Strontium	SR-RAD	0.220	0.32	0.61	2.0	U	SR
Radium 228	15262-20-1	0.569	0.78	2.1	3.0	U	AC
Thorium 228	14274-82-9	-0.035	0.035	0.13		U	TH
Thorium 230	14269-63-7	-0.069	0.035	0.13	1.0	U	TH
Thorium 232	TH-232	0.035	0.069	0.13	1.0	U	TH
Uranium 233/234	U-233/234	9.49	1.2	0.31	1.0		U
Uranium 235	15117-96-1	0.970	0.37	0.23	1.0		U
Uranium 238	U-238	8.34	1.1	0.28	1.0		U
Radium 226	13982-63-3	0.534	0.47	0.74	2.0	U	RA
Potassium 40	13966-00-2	U		280		U	GAM
Cobalt 60	10198-40-0	U		16	25	U	GAM
Cesium 137	10045-97-3	U		18	15	U	GAM
Radium 226	13982-63-3	U		26		U	GAM
Radium 228	15262-20-1	U		76		U	GAM
Europium 152	14683-23-9	U		43	50	U	GAM
Europium 154	15585-10-1	U		55	50	U	GAM
Europium 155	14391-16-3	U		41	50	U	GAM
Thorium 228	14274-82-9	U		23		U	GAM
Thorium 232	TH-232	U		76		U	GAM
Uranium 235	15117-96-1	U		59		U	GAM
Uranium 238	U-238	U		1800		U	GAM
Americium 241	14596-10-2	U		55		U	GAM
Ruthenium 106	13967-48-1	U		130		U	GAM
Antimony 125	14234-35-6	U		39		U	GAM
Beryllium 7	13966-02-4	U		180		U	GAM
Cesium 134	13967-70-9	U		21		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-02 **J111K8**

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-02	Client sample id	J111K8
Dept sample id	7369-002	Location/Matrix	U-5,SurfaceWater,Full QC WATER
Received	01/24/06	Collected/Volume	01/19/06 09:00 5 L
		Custody/SAF No	RC-048-148 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	40.5	150	250	400	U	H
Total Strontium	SR-RAD	0.130	0.33	0.63	2.0	U	SR
Radium 228	15262-20-1	-0.061	0.61	1.7	3.0	U	AC
Thorium 228	14274-82-9	-0.007	0.071	0.13		U	TH
Thorium 230	14269-63-7	-0.035	0.056	0.12	1.0	U	TH
Thorium 232	TH-232	0	0.028	0.054	1.0	U	TH
Uranium 233/234	U-233/234	0.299	0.20	0.25	1.0		U
Uranium 235	15117-96-1	0.081	0.081	0.31	1.0	U	U
Uranium 238	U-238	0.133	0.13	0.25	1.0	U	U
Radium 226	13982-63-3	0.088	0.31	0.56	2.0	U	RA
Potassium 40	13966-00-2	U		280		U	GAM
Cobalt 60	10198-40-0	U		13	25	U	GAM
Cesium 137	10045-97-3	U		12	15	U	GAM
Radium 226	13982-63-3	U		24		U	GAM
Radium 228	15262-20-1	U		52		U	GAM
Europium 152	14683-23-9	U		28	50	U	GAM
Europium 154	15585-10-1	U		30	50	U	GAM
Europium 155	14391-16-3	U		31	50	U	GAM
Thorium 228	14274-82-9	U		16		U	GAM
Thorium 232	TH-232	U		52		U	GAM
Uranium 235	15117-96-1	U		39		U	GAM
Uranium 238	U-238	U		1400		U	GAM
Americium 241	14596-10-2	U		54		U	GAM
Ruthenium 106	13967-48-1	U		96		U	GAM
Antimony 125	14234-35-6	U		25		U	GAM
Beryllium 7	13966-02-4	U		100		U	GAM
Cesium 134	13967-70-9	U		14		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
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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 K0192

R601164-03 **J111L2**

D A T A S H E E T

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-03	Client sample id	J111L2
Dept sample id	7369-003	Location/Matrix	U-6, Pore Water WATER
Received	01/24/06	Collected/Volume	01/19/06 12:30 5 L
		Custody/SAF No	RC-048-151 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-21.7	140	250	400	U	H
Total Strontium	SR-RAD	-0.085	0.29	0.61	2.0	U	SR
Radium 228	15262-20-1	-0.483	0.72	2.0	3.0	U	AC
Thorium 228	14274-82-9	-0.037	0.074	0.28		U	TH
Thorium 230	14269-63-7	-0.073	0.073	0.28	1.0	U	TH
Thorium 232	TH-232	0	0.073	0.28	1.0	U	TH
Uranium 233/234	U-233/234	1.79	0.42	0.19	1.0		U
Uranium 235	15117-96-1	0.030	0.060	0.23	1.0	U	U
Uranium 238	U-238	1.24	0.36	0.19	1.0		U
Radium 226	13982-63-3	-0.028	0.31	0.60	2.0	U	RA
Potassium 40	13966-00-2	U		100		U	GAM
Cobalt 60	10198-40-0	U		12	25	U	GAM
Cesium 137	10045-97-3	U		10	15	U	GAM
Radium 226	13982-63-3	U		19		U	GAM
Radium 228	15262-20-1	U		38		U	GAM
Europium 152	14683-23-9	U		31	50	U	GAM
Europium 154	15585-10-1	U		32	50	U	GAM
Europium 155	14391-16-3	U		35	50	U	GAM
Thorium 228	14274-82-9	U		16		U	GAM
Thorium 232	TH-232	U		38		U	GAM
Uranium 235	15117-96-1	U		48		U	GAM
Uranium 238	U-238	U		1100		U	GAM
Americium 241	14596-10-2	U		52		U	GAM
Ruthenium 106	13967-48-1	U		96		U	GAM
Antimony 125	14234-35-6	U		25		U	GAM
Beryllium 7	13966-02-4	U		110		U	GAM
Cesium 134	13967-70-9	U		13		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-04 **J111L3**

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-04	Client sample id	J111L3
Dept sample id	7369-004	Location/Matrix	U-7, Pore Water WATER
Received	01/24/06	Collected/Volume	01/19/06 14:00 5 L
		Custody/SAF No	RC-048-155 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-37.3	140	250	400	U	H
Total Strontium	SR-RAD	-0.056	0.28	0.60	2.0	U	SR
Radium 228	15262-20-1	0.089	0.64	1.8	3.0	U	AC
Thorium 228	14274-82-9	0.030	0.081	0.16		U	TH
Thorium 230	14269-63-7	-0.090	0.061	0.16	1.0	U	TH
Thorium 232	TH-232	-0.010	0.040	0.11	1.0	U	TH
Uranium 233/234	U-233/234	0.338	0.17	0.22	1.0		U
Uranium 235	15117-96-1	0	0.068	0.26	1.0	U	U
Uranium 238	U-238	0.197	0.17	0.22	1.0	U	U
Radium 226	13982-63-3	0.123	0.39	0.70	2.0	U	RA
Potassium 40	13966-00-2	U		860		U	GAM
Cobalt 60	10198-40-0	U		32	25	U	GAM
Cesium 137	10045-97-3	U		29	15	U	GAM
Radium 226	13982-63-3	U		65		U	GAM
Radium 228	15262-20-1	U		140		U	GAM
Europium 152	14683-23-9	U		76	50	U	GAM
Europium 154	15585-10-1	U		88	50	U	GAM
Europium 155	14391-16-3	U		96	50	U	GAM
Thorium 228	14274-82-9	U		50		U	GAM
Thorium 232	TH-232	U		140		U	GAM
Uranium 235	15117-96-1	U		110		U	GAM
Uranium 238	U-238	U		3300		U	GAM
Americium 241	14596-10-2	U		230		U	GAM
Ruthenium 106	13967-48-1	U		250		U	GAM
Antimony 125	14234-35-6	U		69		U	GAM
Beryllium 7	13966-02-4	U		320		U	GAM
Cesium 134	13967-70-9	U		35		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-05 J111L4

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-05	Client sample id	J111L4
Dept sample id	7369-005	Location/Matrix	U-8, Pore Water WATER
Received	01/24/06	Collected/Volume	01/22/06 11:00 5 L
		Custody/SAF No	RC-048-156 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	3.03	140	240	400	U	H
Total Strontium	SR-RAD	-0.017	0.29	0.60	2.0	U	SR
Radium 228	15262-20-1	-0.056	0.62	1.7	3.0	U	AC
Thorium 228	14274-82-9	0.019	0.062	0.11		U	TH
Thorium 230	14269-63-7	-0.043	0.062	0.12	1.0	U	TH
Thorium 232	TH-232	-0.006	0.012	0.047	1.0	U	TH
Uranium 233/234	U-233/234	1.53	0.42	0.19	1.0		U
Uranium 235	15117-96-1	0.123	0.12	0.24	1.0	U	U
Uranium 238	U-238	1.25	0.37	0.19	1.0		U
Radium 226	13982-63-3	0.181	0.29	0.50	2.0	U	RA
Potassium 40	13966-00-2	U		380		U	GAM
Cobalt 60	10198-40-0	U		18	25	U	GAM
Cesium 137	10045-97-3	U		17	15	U	GAM
Radium 226	13982-63-3	U		31		U	GAM
Radium 228	15262-20-1	U		65		U	GAM
Europium 152	14683-23-9	U		37	50	U	GAM
Europium 154	15585-10-1	U		45	50	U	GAM
Europium 155	14391-16-3	U		42	50	U	GAM
Thorium 228	14274-82-9	U		21		U	GAM
Thorium 232	TH-232	U		65		U	GAM
Uranium 235	15117-96-1	U		52		U	GAM
Uranium 238	U-238	U		1800		U	GAM
Americium 241	14596-10-2	U		71		U	GAM
Ruthenium 106	13967-48-1	U		130		U	GAM
Antimony 125	14234-35-6	U		33		U	GAM
Beryllium 7	13966-02-4	U		150		U	GAM
Cesium 134	13967-70-9	U		21		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-06 **J111L5**

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-06	Client sample id	J111L5
Dept sample id	7369-006	Location/Matrix	U-9, Pore Water WATER
Received	01/24/06	Collected/Volume	01/22/06 13:00 5 L
		Custody/SAF No	RC-048-157 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-9.00	140	240	400	U	H
Total Strontium	SR-RAD	0.181	0.31	0.59	2.0	U	SR
Radium 228	15262-20-1	-0.477	0.60	1.8	3.0	U	AC
Thorium 228	14274-82-9	0.063	0.25	0.61		U	TH
Thorium 230	14269-63-7	0	0.12	0.48	1.0	U	TH
Thorium 232	TH-232	0	0.12	0.48	1.0	U	TH
Uranium 233/234	U-233/234	0.280	0.14	0.18	1.0		U
Uranium 235	15117-96-1	0.056	0.057	0.22	1.0	U	U
Uranium 238	U-238	0.420	0.19	0.18	1.0		U
Radium 226	13982-63-3	0.158	0.42	0.74	2.0	U	RA
Potassium 40	13966-00-2	U		120		U	GAM
Cobalt 60	10198-40-0	U		15	25	U	GAM
Cesium 137	10045-97-3	U		14	15	U	GAM
Radium 226	13982-63-3	U		24		U	GAM
Radium 228	15262-20-1	U		56		U	GAM
Europium 152	14683-23-9	U		41	50	U	GAM
Europium 154	15585-10-1	U		40	50	U	GAM
Europium 155	14391-16-3	U		46	50	U	GAM
Thorium 228	14274-82-9	U		23		U	GAM
Thorium 232	TH-232	U		56		U	GAM
Uranium 235	15117-96-1	U		67		U	GAM
Uranium 238	U-238	U		1500		U	GAM
Americium 241	14596-10-2	U		71		U	GAM
Ruthenium 106	13967-48-1	U		120		U	GAM
Antimony 125	14234-35-6	U		38		U	GAM
Beryllium 7	13966-02-4	U		140		U	GAM
Cesium 134	13967-70-9	U		18		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-07 **J111N2**

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-07	Client sample id	J111N2
Dept sample id	7369-007	Location/Matrix	U-6, Surface Water WATER
Received	01/24/06	Collected/Volume	01/19/06 11:30 5 L
		Custody/SAF No	RC-048-171 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	47.2	150	250	400	U	H
Total Strontium	SR-RAD	-0.228	0.25	0.58	2.0	U	SR
Radium 228	15262-20-1	-0.074	0.61	1.7	3.0	U	AC
Thorium 228	14274-82-9	0.114	0.17	0.35		U	TH
Thorium 230	14269-63-7	0.084	0.17	0.22	1.0	U	TH
Thorium 232	TH-232	0	0.056	0.22	1.0	U	TH
Uranium 233/234	U-233/234	0.293	0.22	0.28	1.0		U
Uranium 235	15117-96-1	0.044	0.089	0.34	1.0	U	U
Uranium 238	U-238	0.183	0.15	0.28	1.0	U	U
Radium 226	13982-63-3	0.046	0.31	0.58	2.0	U	RA
Potassium 40	13966-00-2	U		99		U	GAM
Cobalt 60	10198-40-0	U		11	25	U	GAM
Cesium 137	10045-97-3	U		12	15	U	GAM
Radium 226	13982-63-3	U		21		U	GAM
Radium 228	15262-20-1	U		40		U	GAM
Europium 152	14683-23-9	U		35	50	U	GAM
Europium 154	15585-10-1	U		31	50	U	GAM
Europium 155	14391-16-3	U		38	50	U	GAM
Thorium 228	14274-82-9	U		18		U	GAM
Thorium 232	TH-232	U		40		U	GAM
Uranium 235	15117-96-1	U		52		U	GAM
Uranium 238	U-238	U		1200		U	GAM
Americium 241	14596-10-2	U		57		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Antimony 125	14234-35-6	U		27		U	GAM
Beryllium 7	13966-02-4	U		120		U	GAM
Cesium 134	13967-70-9	U		14		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-08 **J111N3**

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-08	Client sample id	J111N3
Dept sample id	7369-008	Location/Matrix	U-7, Surface Water WATER
Received	01/24/06	Collected/Volume	01/19/06 13:30 5 L
		Custody/SAF No	RC-048-172 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-27.9	140	250	400	U	H
Total Strontium	SR-RAD	0.053	0.29	0.59	2.0	U	SR
Radium 228	15262-20-1	-0.264	0.64	1.9	3.0	U	AC
Thorium 228	14274-82-9	0.035	0.14	0.27		U	TH
Thorium 230	14269-63-7	-0.035	0.14	0.27	1.0	U	TH
Thorium 232	TH-232	0.069	0.070	0.27	1.0	U	TH
Uranium 233/234	U-233/234	0.177	0.14	0.27	1.0	U	U
Uranium 235	15117-96-1	0.043	0.086	0.33	1.0	U	U
Uranium 238	U-238	0.142	0.14	0.27	1.0	U	U
Radium 226	13982-63-3	-0.012	0.31	0.60	2.0	U	RA
Potassium 40	13966-00-2	U		300		U	GAM
Cobalt 60	10198-40-0	U		16	25	U	GAM
Cesium 137	10045-97-3	U		14	15	U	GAM
Radium 226	13982-63-3	U		26		U	GAM
Radium 228	15262-20-1	U		57		U	GAM
Europium 152	14683-23-9	U		30	50	U	GAM
Europium 154	15585-10-1	U		35	50	U	GAM
Europium 155	14391-16-3	U		36	50	U	GAM
Thorium 228	14274-82-9	U		17		U	GAM
Thorium 232	TH-232	U		57		U	GAM
Uranium 235	15117-96-1	U		43		U	GAM
Uranium 238	U-238	U		1500		U	GAM
Americium 241	14596-10-2	U		56		U	GAM
Ruthenium 106	13967-48-1	U		97		U	GAM
Antimony 125	14234-35-6	U		29		U	GAM
Beryllium 7	13966-02-4	U		120		U	GAM
Cesium 134	13967-70-9	U		16		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-09 **J111N4**

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-09	Client sample id	J111N4
Dept sample id	7369-009	Location/Matrix	U-8, Surface Water WATER
Received	01/24/06	Collected/Volume	01/22/06 10:00 5 L
		Custody/SAF No	RC-048-173 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	49.4	150	250	400	U	H
Total Strontium	SR-RAD	0.283	0.33	0.59	2.0	U	SR
Radium 228	15262-20-1	-0.328	0.76	2.2	3.0	U	AC
Thorium 228	14274-82-9	0.035	0.21	0.39		U	TH
Thorium 230	14269-63-7	-0.034	0.14	0.26	1.0	U	TH
Thorium 232	TH-232	0	0.069	0.26	1.0	U	TH
Uranium 233/234	U-233/234	1.29	0.43	0.23	1.0		U
Uranium 235	15117-96-1	0.073	0.073	0.28	1.0	U	U
Uranium 238	U-238	1.23	0.37	0.23	1.0		U
Radium 226	13982-63-3	0.305	0.38	0.62	2.0	U	RA
Potassium 40	13966-00-2	U		100		U	GAM
Cobalt 60	10198-40-0	U		11	25	U	GAM
Cesium 137	10045-97-3	U		11	15	U	GAM
Radium 226	13982-63-3	U		20		U	GAM
Radium 228	15262-20-1	U		43		U	GAM
Europium 152	14683-23-9	U		35	50	U	GAM
Europium 154	15585-10-1	U		33	50	U	GAM
Europium 155	14391-16-3	U		38	50	U	GAM
Thorium 228	14274-82-9	U		18		U	GAM
Thorium 232	TH-232	U		43		U	GAM
Uranium 235	15117-96-1	U		54		U	GAM
Uranium 238	U-238	U		1200		U	GAM
Americium 241	14596-10-2	U		56		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Antimony 125	14234-35-6	U		28		U	GAM
Beryllium 7	13966-02-4	U		120		U	GAM
Cesium 134	13967-70-9	U		13		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-10 **J111N5**

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-10	Client sample id	J111N5
Dept sample id	7369-010	Location/Matrix	U-9, Surface Water WATER
Received	01/24/06	Collected/Volume	01/22/06 12:30 5 L
		Custody/SAF No	RC-048-174 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	129	150	250	400	U	H
Total Strontium	SR-RAD	0.135	0.35	0.69	2.0	U	SR
Radium 228	15262-20-1	0.084	0.70	1.9	3.0	U	AC
Thorium 228	14274-82-9	0.037	0.15	0.28		U	TH
Thorium 230	14269-63-7	-0.037	0.074	0.28	1.0	U	TH
Thorium 232	TH-232	0	0.073	0.28	1.0	U	TH
Uranium 233/234	U-233/234	0.336	0.25	0.32	1.0		U
Uranium 235	15117-96-1	0.051	0.10	0.39	1.0	U	U
Uranium 238	U-238	0.420	0.26	0.32	1.0		U
Radium 226	13982-63-3	-0.361	0.35	0.74	2.0	U	RA
Potassium 40	13966-00-2	U		730		U	GAM
Cobalt 60	10198-40-0	U		26	25	U	GAM
Cesium 137	10045-97-3	U		25	15	U	GAM
Radium 226	13982-63-3	U		58		U	GAM
Radium 228	15262-20-1	U		110		U	GAM
Europium 152	14683-23-9	U		64	50	U	GAM
Europium 154	15585-10-1	U		71	50	U	GAM
Europium 155	14391-16-3	U		87	50	U	GAM
Thorium 228	14274-82-9	U		41		U	GAM
Thorium 232	TH-232	U		110		U	GAM
Uranium 235	15117-96-1	U		100		U	GAM
Uranium 238	U-238	U		2900		U	GAM
Americium 241	14596-10-2	U		200		U	GAM
Ruthenium 106	13967-48-1	U		220		U	GAM
Antimony 125	14234-35-6	U		58		U	GAM
Beryllium 7	13966-02-4	U		270		U	GAM
Cesium 134	13967-70-9	U		28		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-11 **J111W3**

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG_K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-11	Client sample id	J111W3
Dept sample id	7369-011	Location/Matrix	Ref-12, Pore Water WATER
Received	01/26/06	Collected/Volume	01/23/06 14:30 5 L
		Custody/SAF No	RC-048-196 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	53.2	150	250	400	U	H
Total Strontium	SR-RAD	0.108	0.29	0.56	2.0	U	SR
Radium 228	15262-20-1	-0.126	0.69	1.9	3.0	U	AC
Thorium 228	14274-82-9	0.041	0.082	0.20		U	TH
Thorium 230	14269-63-7	-0.041	0.081	0.16	1.0	U	TH
Thorium 232	TH-232	-0.020	0.041	0.16	1.0	U	TH
Uranium 233/234	U-233/234	0.132	0.13	0.25	1.0	U	U
Uranium 235	15117-96-1	0	0.080	0.31	1.0	U	U
Uranium 238	U-238	0.199	0.13	0.25	1.0	U	U
Radium 226	13982-63-3	-0.104	0.24	0.52	2.0	U	RA
Potassium 40	13966-00-2	U		730		U	GAM
Cobalt 60	10198-40-0	U		25	25	U	GAM
Cesium 137	10045-97-3	U		24	15	U	GAM
Radium 226	13982-63-3	U		55		U	GAM
Radium 228	15262-20-1	U		120		U	GAM
Europium 152	14683-23-9	U		68	50	U	GAM
Europium 154	15585-10-1	U		71	50	U	GAM
Europium 155	14391-16-3	U		85	50	U	GAM
Thorium 228	14274-82-9	U		42		U	GAM
Thorium 232	TH-232	U		120		U	GAM
Uranium 235	15117-96-1	U		99		U	GAM
Uranium 238	U-238	U		2900		U	GAM
Americium 241	14596-10-2	U		200		U	GAM
Ruthenium 106	13967-48-1	U		210		U	GAM
Antimony 125	14234-35-6	U		59		U	GAM
Beryllium 7	13966-02-4	U		250		U	GAM
Cesium 134	13967-70-9	U		26		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-12 J111X0

DATA SHEET

SDG	7369	Client/Case no	Hanford	SDG K0192	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R601164-12	Client sample id	J111X0		
Dept sample id	7369-012	Location/Matrix	Ref-13, Pore Water	WATER	
Received	01/26/06	Collected/Volume	01/23/06 12:45	5 L	
		Custody/SAF No	RC-048-197	RC-048	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	129	150	240	400	U	H
Total Strontium	SR-RAD	-0.068	0.27	0.58	2.0	U	SR
Radium 228	15262-20-1	-0.098	0.67	1.9	3.0	U	AC
Thorium 228	14274-82-9	0.086	0.11	0.22		U	TH
Thorium 230	14269-63-7	-0.056	0.057	0.22	1.0	U	TH
Thorium 232	TH-232	0	0.056	0.22	1.0	U	TH
Uranium 233/234	U-233/234	0.213	0.14	0.27	1.0	U	U
Uranium 235	15117-96-1	0	0.086	0.33	1.0	U	U
Uranium 238	U-238	0.213	0.14	0.27	1.0	U	U
Radium 226	13982-63-3	0.150	0.42	0.72	2.0	U	RA
Potassium 40	13966-00-2	U		340		U	GAM
Cobalt 60	10198-40-0	U		16	25	U	GAM
Cesium 137	10045-97-3	U		14	15	U	GAM
Radium 226	13982-63-3	U		27		U	GAM
Radium 228	15262-20-1	U		57		U	GAM
Europium 152	14683-23-9	U		33	50	U	GAM
Europium 154	15585-10-1	U		40	50	U	GAM
Europium 155	14391-16-3	U		37	50	U	GAM
Thorium 228	14274-82-9	U		18		U	GAM
Thorium 232	TH-232	U		57		U	GAM
Uranium 235	15117-96-1	U		47		U	GAM
Uranium 238	U-238	U		1600		U	GAM
Americium 241	14596-10-2	U		62		U	GAM
Ruthenium 106	13967-48-1	U		100		U	GAM
Antimony 125	14234-35-6	U		31		U	GAM
Beryllium 7	13966-02-4	U		120		U	GAM
Cesium 134	13967-70-9	U		17		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-13 **J111X5**

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-13	Client sample id	J111X5
Dept sample id	7369-013	Location/Matrix	Ref-12, Surface Water WATER
Received	01/26/06	Collected/Volume	01/23/06 14:00 5 L
		Custody/SAF No	RC-048-208 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	139	150	240	400	U	H
Total Strontium	SR-RAD	0.145	0.33	0.63	2.0	U	SR
Radium 228	15262-20-1	0.026	0.39	1.9	3.0	U	AC
Thorium 228	14274-82-9	0.020	0.081	0.19		U	TH
Thorium 230	14269-63-7	-0.060	0.040	0.15	1.0	U	TH
Thorium 232	TH-232	-0.020	0.040	0.15	1.0	U	TH
Uranium 233/234	U-233/234	0.190	0.16	0.21	1.0	U	U
Uranium 235	15117-96-1	0	0.066	0.25	1.0	U	U
Uranium 238	U-238	0.218	0.16	0.21	1.0		U
Radium 226	13982-63-3	0.201	0.40	0.70	2.0	U	RA
Potassium 40	13966-00-2	U		240		U	GAM
Cobalt 60	10198-40-0	U		16	25	U	GAM
Cesium 137	10045-97-3	U		15	15	U	GAM
Radium 226	13982-63-3	U		25		U	GAM
Radium 228	15262-20-1	U		64		U	GAM
Europium 152	14683-23-9	U		35	50	U	GAM
Europium 154	15585-10-1	U		38	50	U	GAM
Europium 155	14391-16-3	U		42	50	U	GAM
Thorium 228	14274-82-9	U		19		U	GAM
Thorium 232	TH-232	U		64		U	GAM
Uranium 235	15117-96-1	U		59		U	GAM
Uranium 238	U-238	U		1600		U	GAM
Americium 241	14596-10-2	U		100		U	GAM
Ruthenium 106	13967-48-1	U		120		U	GAM
Antimony 125	14234-35-6	U		30		U	GAM
Beryllium 7	13966-02-4	U		150		U	GAM
Cesium 134	13967-70-9	U		15		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

R601164-14 **J111X6**

DATA SHEET

SDG	7369	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601164-14	Client sample id	J111X6
Dept sample id	7369-014	Location/Matrix	Ref-13, Surface Water WATER
Received	01/26/06	Collected/Volume	01/23/06 12:00 5 L
		Custody/SAF No	RC-048-209 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-78.0	140	250	400	U	H
Total Strontium	SR-RAD	0.030	0.29	0.59	2.0	U	SR
Radium 228	15262-20-1	-0.592	0.76	2.2	3.0	U	AC
Thorium 228	14274-82-9	0.136	0.18	0.35		U	TH
Thorium 230	14269-63-7	-0.045	0.18	0.34	1.0	U	TH
Thorium 232	TH-232	0.045	0.090	0.34	1.0	U	TH
Uranium 233/234	U-233/234	0.220	0.19	0.24	1.0	U	U
Uranium 235	15117-96-1	0	0.076	0.29	1.0	U	U
Uranium 238	U-238	0.094	0.13	0.24	1.0	U	U
Radium 226	13982-63-3	0.120	0.34	0.62	2.0	U	RA
Potassium 40	13966-00-2	U		690		U	GAM
Cobalt 60	10198-40-0	U		25	25	U	GAM
Cesium 137	10045-97-3	U		24	15	U	GAM
Radium 226	13982-63-3	U		55		U	GAM
Radium 228	15262-20-1	U		110		U	GAM
Europium 152	14683-23-9	U		68	50	U	GAM
Europium 154	15585-10-1	U		72	50	U	GAM
Europium 155	14391-16-3	U		82	50	U	GAM
Thorium 228	14274-82-9	U		39		U	GAM
Thorium 232	TH-232	U		110		U	GAM
Uranium 235	15117-96-1	U		95		U	GAM
Uranium 238	U-238	U		2700		U	GAM
Americium 241	14596-10-2	U		190		U	GAM
Ruthenium 106	13967-48-1	U		210		U	GAM
Antimony 125	14234-35-6	U		57		U	GAM
Beryllium 7	13966-02-4	U		260		U	GAM
Cesium 134	13967-70-9	U		26		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test TH Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

THORIUM, ISOTOPIC IN WATER

ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Thorium 230	
Preparation batch 7131-048						
J111K4	R601164-01			7369-001	U	
J111K8	R601164-02			7369-002	U	
J111L2	R601164-03		R1	7369-003	U	
J111L3	R601164-04			7369-004	U	
J111L4	R601164-05			7369-005	U	
J111L5	R601164-06			7369-006	U	
J111N2	R601164-07			7369-007	U	
J111N3	R601164-08			7369-008	U	
J111N4	R601164-09			7369-009	U	
J111N5	R601164-10			7369-010	U	
J111W3	R601164-11			7369-011	U	
J111X0	R601164-12			7369-012	U	
J111X5	R601164-13			7369-013	U	
J111X6	R601164-14			7369-014	U	
Method Blank	R601164-16			7369-016	U	
Lab Control Sample	R601164-15			7369-015	ok	
Duplicate (R601164-01)	R601164-17			7369-017	-	U

Nominal values and limits from method RDLs (pCi/L) 1.0
100&300Area Component RCBRA Water Sa

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test TH Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

THORIUM, ISOTOPIC IN WATER
ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MAX MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-048	2σ prep error 5.0 %			Reference Lab Notebook 7131 pg. 48												
J111K4	R601164-01			0.13	0.500			37		393			41	02/23/06	03/01	SS-033
J111K8	R601164-02			0.12	0.500			31		1269			39	02/23/06	02/27	SS-034
J111L2	R601164-03		R1	0.28	0.500			40		178			50	03/08/06	03/10	SS-033
J111L3	R601164-04			0.16	0.500			23		1266			39	02/23/06	02/27	SS-040
J111L4	R601164-05			0.12	0.500			34		1266			36	02/23/06	02/27	SS-042
J111L5	R601164-06			0.48	0.500			23		189			44	02/23/06	03/07	SS-034
J111N2	R601164-07			0.22	0.500			41		188			47	02/23/06	03/07	SS-036
J111N3	R601164-08			0.27	0.500			34		188			47	02/23/06	03/07	SS-038
J111N4	R601164-09			0.26	0.500			41		188			44	02/23/06	03/07	SS-039
J111N5	R601164-10			0.28	0.500			40		170			44	02/23/06	03/07	SS-028
J111W3	R601164-11			0.16	0.500			74		171			43	02/23/06	03/07	SS-032
J111X0	R601164-12			0.22	0.500			53		171			43	02/23/06	03/07	SS-033
J111X5	R601164-13			0.15	0.500			79		171			43	02/23/06	03/07	SS-034
J111X6	R601164-14			0.34	0.500			29		190			36	02/23/06	02/28	SS-078
Method Blank	R601164-16			0.26	0.500			41		189				02/23/06	03/07	SS-033
Lab Control Sample	R601164-15			0.21	0.500			43		190				02/23/06	02/28	SS-077
Duplicate (R601164-01)	R601164-17			0.38	0.500			25		189			40	02/23/06	02/28	SS-074
Nominal values and limits from method				1.0	0.500			20-110		150	100		180			

PROCEDURES	REFERENCE	THISO_IE_PLATE_AEA
	SPP-062	Sample Aliquoting, rev 0
	CP-900	Thorium in Water and Dissolved Solid Samples by Extraction Chromatography, rev 1
	CP-008	Heavy Element Electroplating, rev 9

AVERAGES ± 2 SD FOR 17 SAMPLES
MDA 0.24 ± 0.20
YIELD 40 ± 31

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test U	Matrix WATER
SDG 7369	
Contact Melissa C. Mannion	

METHOD SUMMARY

URANIUM, ISOTOPIC IN WATER

ALPHA SPECTROSCOPY

Client Hanford	
Contract No. 630	
Contract SDG K0192	

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	1: Uranium 233/234	2: Uranium 235	3: Uranium 238	RESULT RATIOS (%) 1+3	2σ	2+3	2σ
Preparation batch 7131-048											
J111K4	R601164-01			7369-001	9.49	0.970	8.34	114	21	12	5
J111K8	R601164-02			7369-002	0.299	U	U				
J111L2	R601164-03			7369-003	1.79	U	1.24	144	54	2	5
J111L3	R601164-04			7369-004	0.338	U	U				
J111L4	R601164-05			7369-005	1.53	U	1.25	122	49	10	10
J111L5	R601164-06			7369-006	0.280	U	0.420	67	45	13	15
J111N2	R601164-07			7369-007	0.293	U	U				
J111N3	R601164-08			7369-008	U	U	U				
J111N4	R601164-09			7369-009	1.29	U	1.23	105	47	6	6
J111N5	R601164-10			7369-010	0.336	U	0.420	80	77	12	25
J111W3	R601164-11			7369-011	U	U	U				
J111X0	R601164-12			7369-012	U	U	U				
J111X5	R601164-13			7369-013	U	U	0.218	87	97	0	30
J111X6	R601164-14			7369-014	U	U	U				
Method Blank	R601164-16			7369-016	U	U	U				
Lab Control Sample	R601164-15			7369-015	ok	ok	ok				
Duplicate (R601164-01)	R601164-17			7369-017	ok	ok	ok	116	25	11	5
Nominal values and limits from method				RDLs (pCi/L)	1.0	1.0	1.0	100		4	
100&300Area Component RCBRA Water Sa							Averages	104		8	

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-CMS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test U Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

URANIUM, ISOTOPIC IN WATER

ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MAX MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-048	2σ prep error 5.0 %			Reference Lab Notebook 7131 pg. 48												
J111K4	R601164-01			0.31	0.500			87		117			40	02/24/06	02/28	SS-027
J111K8	R601164-02			0.31	0.500			67		118			40	02/24/06	02/28	SS-029
J111L2	R601164-03			0.23	0.500			76		117			40	02/24/06	02/28	SS-035
J111L3	R601164-04			0.26	0.500			66		117			40	02/24/06	02/28	SS-036
J111L4	R601164-05			0.24	0.500			80		112			38	02/24/06	03/01	SS-067
J111L5	R601164-06			0.22	0.500			79		118			37	02/24/06	02/28	SS-038
J111N2	R601164-07			0.34	0.500			61		118			40	02/24/06	02/28	SS-039
J111N3	R601164-08			0.33	0.500			71		118			40	02/24/06	02/28	SS-040
J111N4	R601164-09			0.28	0.500			76		118			37	02/24/06	02/28	SS-042
J111N5	R601164-10			0.39	0.500			61		100			37	02/24/06	02/28	SS-027
J111W3	R601164-11			0.31	0.500			78		101			36	02/24/06	02/28	SS-029
J111X0	R601164-12			0.33	0.500			61		101			36	02/24/06	02/28	SS-035
J111X5	R601164-13			0.25	0.500			80		102			36	02/24/06	02/28	SS-036
J111X6	R601164-14			0.29	0.500			78		104			44	02/24/06	03/08	SS-027
Method Blank	R601164-16			0.45	0.500			53		102				02/24/06	02/28	SS-039
Lab Control Sample	R601164-15			0.85	0.500			95		102				02/24/06	02/28	SS-038
Duplicate (R601164-01)	R601164-17			0.33	0.500			85		102			40	02/24/06	02/28	SS-040
Nominal values and limits from method				1.0	0.500			30-105		100	100		180			

PROCEDURES	REFERENCE	UISO_PLATE_AEA
	SPP-062	Sample Aliquoting, rev 0
	CP-040	Environmental Water Dissolution, rev 9
	CP-921	Uranium in Water and Dissolved Samples by Extraction Chromatography, rev 1
	CP-008	Heavy Element Electroplating, rev 9

AVERAGES ± 2 SD FOR 17 SAMPLES
MDA 0.34 ± 0.29
YIELD 74 ± 22

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test AC Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

RADIUM 228 IN WATER

BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Radium 228	
Preparation batch 7131-048						
J111K4	R601164-01			7369-001	U	
J111K8	R601164-02			7369-002	U	
J111L2	R601164-03			7369-003	U	
J111L3	R601164-04			7369-004	U	
J111L4	R601164-05			7369-005	U	
J111L5	R601164-06			7369-006	U	
J111N2	R601164-07			7369-007	U	
J111N3	R601164-08			7369-008	U	
Method Blank	R601164-16			7369-016	U	
Lab Control Sample	R601164-15			7369-015	ok	
Duplicate (R601164-01)	R601164-17			7369-017	-	U
Preparation batch 7131-048B						
J111N4	R601164-09			7369-009	U	
J111N5	R601164-10			7369-010	U	
J111W3	R601164-11			7369-011	U	
J111X0	R601164-12			7369-012	U	
J111X5	R601164-13			7369-013	U	
J111X6	R601164-14			7369-014	U	
Method Blank	R601164-20			7369-020	U	
Lab Control Sample	R601164-19			7369-019	ok	

Nominal values and limits from method 100&300Area Component RCBRA Water Sa — RDLs (pCi/L) 3.0

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test AC Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

RADIUM 228 IN WATER

BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-048 2σ prep error 5.0 % Reference Lab Notebook 7131 pg. 48																
J111K4	R601164-01			2.1	0.500			55		150			40	02/28/06	02/28	GRB-217
J111K8	R601164-02			1.7	0.500			71		150			40	02/28/06	02/28	GRB-218
J111L2	R601164-03			2.0	0.500			63		150			40	02/28/06	02/28	GRB-219
J111L3	R601164-04			1.8	0.500			66		150			40	02/28/06	02/28	GRB-220
J111L4	R601164-05			1.7	0.500			72		150			37	02/28/06	02/28	GRB-221
J111L5	R601164-06			1.8	0.500			66		150			37	02/28/06	02/28	GRB-222
J111N2	R601164-07			1.7	0.500			67		150			40	02/28/06	02/28	GRB-223
J111N3	R601164-08			1.9	0.500			61		150			40	02/28/06	02/28	GRB-224
Method Blank	R601164-16			2.6	0.500			54		150				02/28/06	02/28	GRB-226
Lab Control Sample	R601164-15			1.9	0.500			65		150				02/28/06	02/28	GRB-225
Duplicate (R601164-01)	R601164-17			2.1	0.500			58		150			41	02/28/06	03/01	GRB-202
Preparation batch 7131-048B 2σ prep error 5.0 % Reference Lab Notebook 7131 pg. 48																
J111N4	R601164-09			2.2	0.500			57		150			38	03/01/06	03/01	GRB-217
J111N5	R601164-10			1.9	0.500			63		150			38	03/01/06	03/01	GRB-218
J111W3	R601164-11			1.9	0.500			68		150			37	03/01/06	03/01	GRB-219
J111X0	R601164-12			1.9	0.500			62		150			37	03/01/06	03/01	GRB-220
J111X5	R601164-13			1.9	0.500			66		150			37	03/01/06	03/01	GRB-230
J111X6	R601164-14			2.2	0.500			59		150			37	03/01/06	03/01	GRB-201
Method Blank	R601164-20			1.8	0.500			69		150				03/01/06	03/01	GRB-204
Lab Control Sample	R601164-19			1.7	0.500			69		150				03/01/06	03/01	GRB-203
Nominal values and limits from method				3.0	0.500					100			180			

PROCEDURES	REFERENCE	RAISO_SEP_GPC
	SPP-062	Sample Aliquoting, rev 0
	CP-702	Radium-228 in Water, rev 9

AVERAGES ± 2 SD FOR 19 SAMPLES				
	MDA	1.9	±	0.45
	YIELD	64	±	11

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test SR Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

TOTAL STRONTIUM IN WATER

BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Total Strontium	
Preparation batch 7131-048						
J111K4	R601164-01			7369-001	U	
J111K8	R601164-02			7369-002	U	
J111L2	R601164-03			7369-003	U	
J111L3	R601164-04			7369-004	U	
J111L4	R601164-05			7369-005	U	
J111L5	R601164-06			7369-006	U	
J111N2	R601164-07			7369-007	U	
J111N3	R601164-08			7369-008	U	
J111N4	R601164-09			7369-009	U	
J111N5	R601164-10			7369-010	U	
J111W3	R601164-11			7369-011	U	
J111X0	R601164-12			7369-012	U	
J111X5	R601164-13			7369-013	U	
J111X6	R601164-14			7369-014	U	
Method Blank	R601164-16			7369-016	U	
Lab Control Sample	R601164-15			7369-015	ok	
Duplicate (R601164-01)	R601164-17			7369-017	-	U

Nominal values and limits from method RDLs (pCi/L) 2.0
100&300Area Component RCBRA Water Sa

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test SR Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

TOTAL STRONTIUM IN WATER

BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-048	2σ prep error 10.0 %			Reference Lab Notebook 7131 pg. 48												
J111K4	R601164-01			0.61	0.500			78		100			39	02/27/06	02/27	GRB-217
J111K8	R601164-02			0.63	0.500			74		100			39	02/27/06	02/27	GRB-218
J111L2	R601164-03			0.61	0.500			81		100			39	02/27/06	02/27	GRB-219
J111L3	R601164-04			0.60	0.500			77		100			39	02/27/06	02/27	GRB-220
J111L4	R601164-05			0.60	0.500			79		100			36	02/27/06	02/27	GRB-221
J111L5	R601164-06			0.59	0.500			77		100			36	02/27/06	02/27	GRB-222
J111N2	R601164-07			0.58	0.500			81		100			39	02/27/06	02/27	GRB-223
J111N3	R601164-08			0.59	0.500			79		100			39	02/27/06	02/27	GRB-224
J111N4	R601164-09			0.59	0.500			86		100			36	02/27/06	02/27	GRB-225
J111N5	R601164-10			0.69	0.500			83		100			36	02/27/06	02/27	GRB-230
J111W3	R601164-11			0.56	0.500			86		100			35	02/27/06	02/27	GRB-227
J111X0	R601164-12			0.58	0.500			78		100			35	02/27/06	02/27	GRB-228
J111X5	R601164-13			0.63	0.500			81		100			35	02/27/06	02/27	GRB-231
J111X6	R601164-14			0.59	0.500			83		100			35	02/27/06	02/27	GRB-201
Method Blank	R601164-16			0.59	0.500			85		100				02/27/06	02/27	GRB-225
Lab Control Sample	R601164-15			0.51	0.500			82		95				02/27/06	02/27	GRB-222
Duplicate (R601164-01)	R601164-17			0.71	0.500			79		100			39	02/27/06	02/27	GRB-217
Nominal values and limits from method				2.0	0.500			35-105		100			180			

PROCEDURES	REFERENCE	SRTOT_SEP_PRECIP_GPC
	SPP-062	Sample Aliquoting, rev 0
	CP-380	Strontium in Water Samples, rev 2

AVERAGES ± 2 SD FOR 17 SAMPLES
MDA 0.60 ± 0.091
YIELD 81 ± 7

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test GAM Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

GAMMA EMITTERS

GAMMA SCAN

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Cobalt 60		Cesium 137	
Preparation batch 7131-048								
J111K4	R601164-01			7369-001	U		U	
J111K8	R601164-02			7369-002	U		U	
J111L2	R601164-03			7369-003	U		U	
J111L3	R601164-04			7369-004	U		U	
J111L4	R601164-05			7369-005	U		U	
J111L5	R601164-06			7369-006	U		U	
J111N2	R601164-07			7369-007	U		U	
J111N3	R601164-08			7369-008	U		U	
J111N4	R601164-09			7369-009	U		U	
J111N5	R601164-10			7369-010	U		U	
J111W3	R601164-11			7369-011	U		U	
J111X0	R601164-12			7369-012	U		U	
J111X5	R601164-13			7369-013	U		U	
J111X6	R601164-14			7369-014	U		U	
Method Blank	R601164-16			7369-016	U		U	
Lab Control Sample	R601164-15			7369-015	ok		ok	
Duplicate (R601164-01)	R601164-17			7369-017	-	U	-	U
Nominal values and limits from method 100&300Area Component RCBRA Water Sa				RDLs (pCi/L)	25		15	

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test GAM Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

GAMMA EMITTERS

GAMMA SCAN

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-048	2σ prep error 15.0 %			Reference Lab Notebook 7131 pg. 48												
J111K4	R601164-01			78	0.500					301			32	02/15/06	02/20	01,03,00
J111K8	R601164-02			55	0.500					365			29	02/15/06	02/17	MB,08,00
J111L2	R601164-03			63	0.500					365			29	02/15/06	02/17	01,04,00
J111L3	R601164-04			160	0.500					202			29	02/15/06	02/17	01,02,00
J111L4	R601164-05			75	0.500					202			26	02/15/06	02/17	MB,08,00
J111L5	R601164-06			85	0.500					202			26	02/15/06	02/17	01,04,00
J111N2	R601164-07			70	0.500					302			32	02/15/06	02/20	01,04,00
J111N3	R601164-08			62	0.500					302			32	02/15/06	02/20	MB,08,00
J111N4	R601164-09			70	0.500					300			29	02/15/06	02/20	01,04,00
J111N5	R601164-10			150	0.500					301			29	02/15/06	02/20	01,02,00
J111W3	R601164-11			150	0.500					300			28	02/15/06	02/20	01,02,00
J111X0	R601164-12			67	0.500					300			28	02/15/06	02/20	MB,08,00
J111X5	R601164-13			80	0.500					300			28	02/15/06	02/20	MB,05,00
J111X6	R601164-14			140	0.500					301			28	02/15/06	02/20	01,02,00
Method Blank	R601164-16			70	0.500					301				02/15/06	02/20	01,03,00
Lab Control Sample	R601164-15			19	0.500					301				02/15/06	02/20	MB,08,00
Duplicate (R601164-01)	R601164-17			71	0.500					301			32	02/15/06	02/20	01,04,00
Nominal values and limits from method				15	0.500					100			180			

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

AVERAGES ± 2 SD FOR 17 SAMPLES
MDA 86 ± 79
YIELD ____ ± ____

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test H Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Tritium	
Preparation batch 7131-048						
J111K4	R601164-01			7369-001	U	
J111K8	R601164-02			7369-002	U	
J111L2	R601164-03			7369-003	U	
J111L3	R601164-04			7369-004	U	
J111L4	R601164-05			7369-005	U	
J111L5	R601164-06			7369-006	U	
J111N2	R601164-07			7369-007	U	
J111N3	R601164-08			7369-008	U	
J111N4	R601164-09			7369-009	U	
J111N5	R601164-10			7369-010	U	
J111W3	R601164-11			7369-011	U	
J111X0	R601164-12			7369-012	U	
J111X5	R601164-13			7369-013	U	
J111X6	R601164-14			7369-014	U	
Method Blank	R601164-16			7369-016	U	
Lab Control Sample	R601164-15			7369-015	ok	
Duplicate (R601164-01)	R601164-17			7369-017	-	U
Spike (R601164-01)	R601164-18			7369-018	ok	X

Nominal values and limits from method RDLs (pCi/L) 400
100&300Area Component RCBRA Water Sa

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test H Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-048	2σ prep error 10.0 %				Reference Lab Notebook 7131 pg. 48											
J111K4	R601164-01			250	0.0100			100		75			43	03/02/06	03/03	LSC-006
J111K8	R601164-02			250	0.0100			100		75			43	03/02/06	03/03	LSC-006
J111L2	R601164-03			250	0.0100			100		75			43	03/02/06	03/03	LSC-006
J111L3	R601164-04			250	0.0100			100		75			43	03/02/06	03/03	LSC-006
J111L4	R601164-05			240	0.0100			100		75			40	03/02/06	03/03	LSC-006
J111L5	R601164-06			240	0.0100			100		75			40	03/02/06	03/03	LSC-006
J111N2	R601164-07			250	0.0100			100		75			44	03/02/06	03/04	LSC-006
J111N3	R601164-08			250	0.0100			100		75			44	03/02/06	03/04	LSC-006
J111N4	R601164-09			250	0.0100			100		75			41	03/02/06	03/04	LSC-006
J111N5	R601164-10			250	0.0100			100		75			41	03/02/06	03/04	LSC-006
J111W3	R601164-11			250	0.0100			100		75			40	03/02/06	03/04	LSC-006
J111X0	R601164-12			240	0.0100			100		75			40	03/02/06	03/04	LSC-006
J111X5	R601164-13			240	0.0100			100		75			40	03/02/06	03/04	LSC-006
J111X6	R601164-14			250	0.0100			100		75			40	03/02/06	03/04	LSC-006
Method Blank	R601164-16			2600	0.0100			10		75				03/02/06	03/04	LSC-006
Lab Control Sample	R601164-15			2400	0.0100			10		75				03/02/06	03/04	LSC-006
Duplicate (R601164-01)	R601164-17			250	0.0100			100		75			44	03/02/06	03/04	LSC-006
Spike (R601164-01)	R601164-18			250	0.0300			33		75			44	03/02/06	03/04	LSC-006
Nominal values and limits from method				400	0.0100					25			180			

PROCEDURES REFERENCE 906.0_H3_LSC
CP-210 Tritium in Water Samples by Distillation, rev 8

AVERAGES ± 2 SD FOR 18 SAMPLES
MDA 500 ± 1500
YIELD 86 ± 64

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test RA Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

RADIUM 226 IN WATER

RADON COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Radium 226	
Preparation batch 7131-048						
J111K4	R601164-01			7369-001	U	
J111K8	R601164-02			7369-002	U	
J111L2	R601164-03			7369-003	U	
J111L3	R601164-04			7369-004	U	
J111L4	R601164-05			7369-005	U	
J111L5	R601164-06			7369-006	U	
J111N2	R601164-07			7369-007	U	
J111N3	R601164-08			7369-008	U	
J111N4	R601164-09			7369-009	U	
J111N5	R601164-10			7369-010	U	
J111W3	R601164-11			7369-011	U	
J111X0	R601164-12			7369-012	U	
J111X5	R601164-13			7369-013	U	
J111X6	R601164-14			7369-014	U	
Method Blank	R601164-16			7369-016	U	
Lab Control Sample	R601164-15			7369-015	ok	
Duplicate (R601164-01)	R601164-17			7369-017	-	U

Nominal values and limits from method RDLs (pCi/L) 2.0
100&300Area Component RCBRA Water Sa

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test RA Matrix WATER
SDG 7369
Contact Melissa C. Mannion

METHOD SUMMARY

RADIUM 226 IN WATER

RADON COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-048	2σ prep error 5.0 %			Reference Lab Notebook 7131 pg. 48												
J111K4	R601164-01			0.74	0.100			100		80			40	02/28/06	02/28	RN-009
J111K8	R601164-02			0.56	0.100			100		80			40	02/28/06	02/28	RN-011
J111L2	R601164-03			0.60	0.100			100		80			40	02/28/06	02/28	RN-012
J111L3	R601164-04			0.70	0.100			100		80			40	02/28/06	02/28	RN-014
J111L4	R601164-05			0.50	0.100			100		80			37	02/28/06	02/28	RN-015
J111L5	R601164-06			0.74	0.100			100		80			37	02/28/06	02/28	RN-016
J111N2	R601164-07			0.58	0.100			100		80			40	02/28/06	02/28	RN-011
J111N3	R601164-08			0.60	0.100			100		80			40	02/28/06	02/28	RN-012
J111N4	R601164-09			0.62	0.100			100		80			37	02/28/06	02/28	RN-013
J111N5	R601164-10			0.74	0.100			100		80			37	02/28/06	02/28	RN-014
J111W3	R601164-11			0.52	0.100			100		80			36	02/28/06	02/28	RN-015
J111X0	R601164-12			0.72	0.100			100		93			37	02/28/06	03/01	RN-009
J111X5	R601164-13			0.70	0.100			100		74			37	02/28/06	03/01	RN-011
J111X6	R601164-14			0.62	0.100			100		74			37	02/28/06	03/01	RN-012
Method Blank	R601164-16			0.69	0.100			100		80				02/28/06	03/01	RN-014
Lab Control Sample	R601164-15			0.77	0.100			100		74				02/28/06	03/01	RN-013
Duplicate (R601164-01)	R601164-17			0.66	0.100			100		74			41	02/28/06	03/01	RN-015
Nominal values and limits from method				2.0	0.100			20-105		100			180			

PROCEDURES	REFERENCE	903.1_RA226_LUC
	SPP-062	Sample Aliquoting, rev 0
	CP-881	Radium-226 in Water and Dissolved Samples, rev 1

AVERAGES ± 2 SD FOR 17 SAMPLES
MDA 0.65 ± 0.17
YIELD 100 ± 0

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG	7369
Contact	Melissa C. Mannion

REPORT GUIDE

Client	Hanford
Contract	No. 630
Case no	SDG_K0192

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	03/13/06

SDG 7369
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K0192

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 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG	7369
Contact	Melissa C. Mannion

REPORT GUIDE

Client	Hanford
Contract	No. 630
Case no	SDG_K0192

WORK SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

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Protocol	Hanford
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Client Hanford
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DATA SHEET

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

The following notes apply to this report:

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

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

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

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

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

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

The following qualifiers are defined by the DVD system:

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

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DATA SHEET

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

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

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

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GUIDE, cont.

Client Hanford
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Case no SDG K0192

DATA SHEET

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

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

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

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

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REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_K0192

LAB CONTROL SAMPLE

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

The following notes apply to this report:

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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

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Case no SDG_K0192

DUPLICATE

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

The following notes apply to this report:

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

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

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

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

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

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

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

  This value reported for this limit is at most 999.

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

  1. A fixed percentage specified in the protocol.

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DUPLICATE

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

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

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

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

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

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REPORT GUIDE

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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GUIDE, cont.

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MATRIX SPIKE

for the recovery.

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

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

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METHOD SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

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

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

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METHOD SUMMARY

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

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

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

  MDAs are underlined if greater than the printed RDL.

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

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

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

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

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

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

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METHOD SUMMARY

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

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

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

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

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

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

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

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

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

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

METHOD SUMMARY

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

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

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

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-144	Page 1 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7N Data Turnaround 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-5, PORE WATER, FULL QC K0192 (7369)		SAF No. RC-048	Air Quality ☐
Ice Chest No. ERC-02-504	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX	
Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A060229		Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	3	2	3
Volume	125mL	1000mL	1000mL	1000mL	1000mL	1000mL	500mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium {Thorium-232}	Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238}	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No. / Matrix * / Sample Date / Sample Time										
J111K4 / WATER / 1-19-06 / 1000	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS
Relinquished By/Removed From: James E. Bernhard, Date/Time 1-19-06 1630	Received By/Stored In: EAS LOCKED STORAGE, Date/Time 1/19/06 1630	(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}
Relinquished By/Removed From: EAS LOCKED STORAGE, Date/Time 01-23-06 0730	Received By/Stored In: RZ Stiffler, Date/Time 0730 1-23-06	(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)
Relinquished By/Removed From: RZ Stiffler, Date/Time 1500 1-23-06	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: FEDEX, Date/Time 1/24/06 10:00	Received By/Stored In: Alex Kellenberg, Date/Time 1/24/06 10:00	
Relinquished By/Removed From, Date/Time	Received By/Stored In, Date/Time	
Relinquished By/Removed From, Date/Time	Received By/Stored In, Date/Time	

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-148	Page 1 of 2

Collector TILLER, B Bernhard	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 7N **Data Turnaround** 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	**Sampling Location** U-5, SURFACE WATER, FULL QC K0192 (7369)	**SAF No.** RC-048	**Air Quality** ☐
Ice Chest No. SAWS-370	**Field Logbook No.** EL-1597 **COA** BESRAS6520	**Method of Shipment** FED EX	
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A060231	**Bill of Lading/Air Bill No.** SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	3	2	3
Volume	125mL	1000mL	1000mL	1000mL	1000mL	1000mL	500mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	*Radium* -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No. / **Matrix *** / **Sample Date** / **Sample Time**										
J111K8 / WATER / 1-19-06 / 0900	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
James E. Bernhard	1-19-06 1630	EAS LOCKED STORAGE	1/19/06 1630
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
EAS LOCKED STORAGE	01-23-06/0730	RZ Steffler R.J. Steffler	1-23-06/0730
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RZ Steffler R.J. Steffler	1-23-06 1500	Fed Ex	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
FEDEX	1/26/06 10:00	Alex Kellerstrand	1/26/06 10:00
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-151	Page 1 of 2

Collector TILLER, B Bemhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7N Air Quality ☐	Data Turnaround 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-6, PORE WATER K0192 (7369)		SAF No. RC-048		
Ice Chest No. ERC-02-504	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES, LIONVILLE	Offsite Property No. A060229		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
J111L2	WATER	1-19-06	1230	X	X	X	X	X	X				

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
L-La 14 James E. Bemhard	1-19-06 1630	EAS LOCKED STORAGE	1/19/06 1630
EAS LOCKED STORAGE B. Tiller	01-23-06 0730	RZ Stettler R.J. Stettler	1-23-06 0730
RZ Stettler R.J. Stettler	1500 with 1-23-06	Fed Ex	
FEDEX	1/24/05 10:00	Flex Kelleeht	1/24/06 10:00
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}
(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-155	Page 1 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7N Air Quality ☐	Data Turnaround 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-7, PORE WATER K0192 (7369)		SAF No. RC-048		
Ice Chest No. SAWS-370	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A060231		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
J111L3	WATER	1-19-06	1400	X	X	X	X	X	X				

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature] James E. Bernhard	1-19-06 1630	[signature] EAS LOCKED STORAGE	1/19/06 1630
EAS LOCKED STORAGE [signature]	01-23-06 0730	RZ Stiffler [signature]	1-23-06 0730
RZ Stiffler [signature]	1-23-06 1500	Fed EX	AR 1/26/06
FEDEX AR	1/26/06 10:00	[signature]	1/26/06 10:00

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-156	Page 1 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7N Air Quality ☐	Data Turnaround 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-8, PORE WATER K0192 (7369)		SAF No. RC-048		
Ice Chest No. ERC-96-030	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES, LIONVILLE	Offsite Property No. A060230		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium {Thorium-232}	Isotopic Uranium {Uranium-233/234, Uranium-235, Uranium-238}	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081

Sample No.	Matrix *	Sample Date	Sample Time										
J111L4	WATER	1-22-06	1100	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From James E Bernhard	Date/Time 1-22-06 1600	Received By/Stored In EAS Locked Storage	Date/Time 1-22-06 1600
Relinquished By/Removed From EAS Locked Storage	Date/Time 01-23-06 / 0730	Received By/Stored In RZ Stiffler R.Z. Stiffler	Date/Time 1-23-06 / 0730
Relinquished By/Removed From RZ Stiffler R.Z. Stiffler	Date/Time 1500 1-23-06	Received By/Stored In Red Ex	Date/Time
Relinquished By/Removed From FEDEX	Date/Time 1/26/06 10:00	Received By/Stored In Alex Leland	Date/Time 1/26/06 10:00
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-157	Page 1 of 2

Collector: TILLER, B Bernhard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-9, PORE WATER K0192 (7369)	SAF No.: RC-048	
Ice Chest No.: ERC-96-030	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060230	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
J111L5	WATER	1-22-06	1300	X	X	X	X	X	X				

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
James E. Bernhard	1-22-06 1600	FAS Lockard Storage	1-22-06 1600
FAS LOCKED STORAGE	01-23-06 0730	R2 Steffler R.J. Steffler	1-23-06 0730
R2 Steffler R.J. Steffler	1-23-06 1500	FED EX	
FEDEX	1/24/06 10:00	Rex Kelleher	1/24/06 10:00

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}
(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-171	Page 1 of 2

Collector: TILLER, B Bern Lard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-6, SURFACE WATER K0192 (7369)	SAF No.: RC-048	
Ice Chest No.: ERC-96-030	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060230	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium-226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
J111N2	WATER	1-19-06	1130	X	X	X	X	X	X				

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
James E. Bechel	1-19-06 1630	EBS LOCKED STORAGE	1/19/06 1630
EBS LOCKED STORAGE	01-23-06 0730	R2 Stoffler	1-23-06 0730
R2 Stoffler	1-23-06 1500	Fed Ex	
FEDEX	1/24/06 10:00	Alex Kellerton	1/24/06 10:00

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-172	Page 1 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7N Air Quality ☐	Data Turnaround 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-7, SURFACE WATER K0169 (7369)		SAF No. RC-048		
Ice Chest No. ERC-96-030	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A060230		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL

SAMPLE ANALYSIS				Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No.	Matrix *	Sample Date	Sample Time										
J111N3	WATER	1-19-06	1330	X	X	X	X	X	X				

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
John M Jones E. Bernhard	1/19/06 1600	EAS LOCKED STORAGE	1/19/06 1630
EAS LOCKED STORAGE	01-23-06/0730	RZ Stoffler R.Z. Stoffler	1-23-06/0730
RZ Stoffler R.Z. Stoffler	1-23-06 1500	Fed Ex	
FEDEX 1/24/06	10:00	Rex Bellard	1/24/06 10:00

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}
(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-173	Page 1 of 2

Collector TILLER, B Bernhard	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 7N **Data Turnaround** 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	**Sampling Location** U-8, SURFACE WATER K0192 (7369)	**SAF No.** RC-048	**Air Quality** ☐
Ice Chest No. ERC-02-504	**Field Logbook No.** EL-1597 **COA** BESRAS6520	**Method of Shipment** FED EX	
Shipped To EBERLINE SERVICES, LIONVILLE	**Offsite Property No.** A060229	**Bill of Lading/Air Bill No.** SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No. / **Matrix *** / **Sample Date** / **Sample Time**										
J111N4 / WATER / 1-22-06 / 1000	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	James E. Bernhard	1-22-06 1600	EAS Locked Storage	1-22-06 1000
Relinquished By/Removed From	EAS Locked Storage	01-23-06 0730	R2 Stiffler	1-23-06 0730
Relinquished By/Removed From	R2 Stiffler	1-23-06 1500	Fed Ex	
Relinquished By/Removed From	FEDEX	1/24/06 10:00	FEDEX	1/24/06 10:00
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-174	Page 1 of 2

Collector TILLER, B Bernhard	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 7N **Data Turnaround** 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	**Sampling Location** U-9, SURFACE WATER K0192 (7369)	**SAF No.** RC-048	**Air Quality** ☐
Ice Chest No. ERC-02-504	**Field Logbook No.** EL-1597 **COA** BESRAS6520	**Method of Shipment** FED EX	
Shipped To EBERLINE SERVICES / LIONVILLE	**Offsite Property No.** A060229	**Bill of Lading/Air Bill No.** SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No. / **Matrix *** / **Sample Date** / **Sample Time**										
J111N5 / WATER / 1-22-06 / 1230	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	James E. Bernhard	1-22-06 1600	EAS Locked Storage	1-22-06 1600
Relinquished By/Removed From	EAS Locked Storage	1-23-06/0730	RZ Stoffler R.J. Stoffler	1-23-06 /0730
Relinquished By/Removed From	RZ Stoffler R.J. Stoffler	1-23-06 1500	Fed Ex	
Relinquished By/Removed From	FEDEX	1/24/06 10:00	Rex Lehnerly	1/24/06 10:00
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-196	Page 1 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7N Data Turnaround 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location REF-12, PORE WATER K0192 (7369)		SAF No. RC-048	Air Quality ☐
Ice Chest No. ERC-99-061	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX	
Shipped To EBERLINE SERVICES, LIONVILLE	Offsite Property No. A060232		Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RZS 1-24-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No. / Matrix * / Sample Date / Sample Time										
J111W3 / WATER / 1-23-06 / 1430	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS
Relinquished By/Removed From: James E. Bernhard LG Date/Time 1-23-06 1700	Received By/Stored In: EAS Locked storage LG Date/Time 1-23-06 1700	(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}
Relinquished By/Removed From: EAS Locked Storage Date/Time 01-24-06/0700	Received By/Stored In: RZ Stettler Date/Time 0700 1-24-06	(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)
Relinquished By/Removed From: RZ Stettler Date/Time 1500 1-24-06	Received By/Stored In: Fed Ex Date/Time	
Relinquished By/Removed From: FED EX 1/26/05 10:00	Received By/Stored In: Alex Kellerhal 1/26/2006 10:00	
Relinquished By/Removed From: Date/Time	Received By/Stored In: MUM Date/Time	
Relinquished By/Removed From: Date/Time	Received By/Stored In: 2/1/06 Date/Time	

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-197	Page 1 of 2

Collector TILLER, B Bernhard	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 7N **Data Turnaround** 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	**Sampling Location** REF-13, PORE WATER KD192 (7369)	**SAF No.** RC-048	**Air Quality** ☐
Ice Chest No. ERC-99-061	**Field Logbook No.** EL-1597 **COA** BESRAS6520	**Method of Shipment** FED EX	
Shipped To EBERLINE SERVICES/ LIONVILLE	**Offsite Property No.** A060232	**Bill of Lading/Air Bill No.** SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RZS 1-24-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium-226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No. / **Matrix *** / **Sample Date** / **Sample Time**										
J111X0 / WATER / 1-23-06 / 1245	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Bernhard	1-23-06 1700	EAS Locked Storage	1-23-06 1700
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
EAS LOCKED STORAGE	01-24-06 0700	RZ Stoffler	1-24-06 0700
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
RZ Stoffler	1-24-06 1500	Fed Ex	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
FED EX	1/26/05 10:00	Alex Kelleuly	1/26/05 06 10:00
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
		MUM	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
		2/1/06	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-208	Page 1 of 2

Collector: TILLER, B Bernhard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: REF-12 SURFACE WATER K0192 (7369)	SAF No.: RC-048	
Ice Chest No.: ERC-99-061	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES, LIONVILLE	Offsite Property No.: A060232	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ None
1-24-06
RZS

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	125mL	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No. / Matrix * / Sample Date / Sample Time										
J111X5 / WATER / 1-23-06 / 1400	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	James E. Bernhard	1700 1-23-06	EAS Locked Storage	1700 1-23-06
Relinquished By/Removed From	EAS LOCKED STORAGE	01-24-06 0700	RZ Stoffler	1-24-06 0700
Relinquished By/Removed From	RZ Stoffler	1506 1-24-06	Fed Ex	
Relinquished By/Removed From	FED EX	1/26/05 10:00	Alex Ellenfel	1/26/06 10:00
Relinquished By/Removed From				
Relinquished By/Removed From				

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}
(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-209	Page 1 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7N Air Quality ☐	Data Turnaround 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location REF-13 SURFACE WATER K0192 (7369)		SAF No. RC-048		
Ice Chest No. ERC-99-061	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A060232		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ None
RCS
1-24-06

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	125mL	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081

Sample No.	Matrix *	Sample Date	Sample Time										
J111X6	WATER	1-23-06	1200	X	X	X	X	X	X				

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
James E. Bernhard	1700 1-23-06	EAS Locked Storage	1700 1-23-06
EAS LOCKED STORAGE	01-24-06 0700	RZ Stettler	0700 1-24-06
RZ Stettler	1500 WCH 1-24-06	Fed EX	
FEDEX	1/26/06 10:00	Alex Kleinhel	1/26/06 10:00
		MCM	
		2/1/06	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}
(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: W C. HANFORD City RICHLAND State WA

Date/Time received 1/24/06 10:00 CoC No. RC-048-144, 148, 151, 155, 156, 157, 171-174 SAWS-370, ERC-96-030

Container I.D. No. ERC-02-504, Requested TAT (Days) 45 P.O. Received Yes [ ] No [ ]

INSPECTION

1. Custody seals on shipping container intact? Yes [✓] No [ ] N/A [ ]
2. Custody seals on shipping container dated & signed? Yes [✓] No [ ] N/A [ ]
3. Custody seals on sample containers intact? Yes [✓] No [ ] N/A [ ]
4. Custody seals on sample containers dated & signed? Yes [✓] No [ ] N/A [ ]
5. Packing material is: Wet [ ] Dry [✓]
6. Number of samples in shipping container: 10 Sample Matrix WATER
7. Number of containers per sample: 6 (Or see CoC _____)
8. Samples are in correct container Yes [✓] No [ ]
9. Paperwork agrees with samples? Yes [✓] No [ ]
10. Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [✓]
11. Samples are: In good condition [✓] Leaking [ ] Broken Container [ ] Missing [ ]
12. Samples are: Preserved [✓] Not preserved [ ] pH 2 Preservative HNO3
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by AK Date: 1/24/06 Time: 10:00

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

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

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

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: WC HANFORD City RICHLAND State WA

Date/Time received 1/26/06 10:00 CoC No. RC-48-196, 197, 208, 209

Container I.D. No. ERC-99-061 Requested TAT (Days) 45 P.O. Received Yes [ ] No [ ]

INSPECTION

1. Custody seals on shipping container intact? Yes [✓] No [ ] N/A [ ]
2. Custody seals on shipping container dated & signed? Yes [✓] No [ ] N/A [ ]
3. Custody seals on sample containers intact? Yes [✓] No [ ] N/A [ ]
4. Custody seals on sample containers dated & signed? Yes [✓] No [ ] N/A [ ]
5. Packing material is: Wet [ ] Dry [✓]
6. Number of samples in shipping container: 4 Sample Matrix WATER
7. Number of containers per sample: 6 (Or see CoC _____)
8. Samples are in correct container Yes [✓] No [ ]
9. Paperwork agrees with samples? Yes [✓] No [ ]
10. Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [✓]
11. Samples are: In good condition [✓] Leaking [ ] Broken Container [ ] Missing [ ]
12. Samples are: Preserved [✓] Not preserved [ ] pH 2 Preservative HNO3
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by AR Date: 1/26/05 Time: 10:00

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

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

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

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 K0192

SDG	7371
Contact	Melissa C. Mannion

Client	Hanford
Contract	No. 630
Case no	SDG_K0192

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

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

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Sample Summaries	3
Prep Batch Summary	5
Work Summary	6
Method Blanks	11
Lab Control Samples	13
Duplicates	14
Matrix Spikes	17
Data Sheets	18
Method Summaries	30
Report Guides	45
End of Section	59

Prepared by

Melissa Mannion

Reviewed by

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-TOC
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG	7371
Contact	Melissa C. Mannion

REPORT GUIDE

Client	Hanford
Contract	No. 630
Case no	SDG_K0192

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	03/13/06

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 K0192

SDG 7371
Contact Melissa C. Mannion

LAB SAMPLE SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0192

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CHAIN OF CUSTODY	COLLECTED
R601179-01	J111L6	U-10, Pore Water	WATER		RC-048	RC-048-158	01/24/06 10:00
R601179-02	J111N6	U-10, Surface Water	WATER		RC-048	RC-048-175	01/24/06 09:00
R601179-03	J111W2	Ref-11, Pore Water	WATER		RC-048	RC-048-195	01/25/06 10:30
R601179-04	J111X4	Ref-11, Surface Water	WATER		RC-048	RC-048-207	01/25/06 11:30
R601179-05	J111Y7	Ref-14, Pore Water	WATER		RC-048	RC-048-216	01/24/06 16:30
R601179-06	J111Y8	Ref-16, Pore Water	WATER		RC-048	RC-048-217	01/24/06 14:45
R601179-07	J11205	Ref-14, Surface Water	WATER		RC-048	RC-048-224	01/24/06 16:00
R601179-08	J11206	Ref-16, Surface Water	WATER		RC-048	RC-048-225	01/24/06 14:00
R601179-09	J11218	Cr 1, Pore Water	WATER		RC-048	RC-048-232	01/25/06 13:00
R601179-10	J11219	Cr 2, Pore Water	WATER		RC-048	RC-048-233	01/25/06 14:00
R601179-11	J11235	Cr 1, Surface Water	WATER		RC-048	RC-048-248	01/25/06 12:30
R601179-12	J11236	Cr 2, Surface Water	WATER		RC-048	RC-048-249	01/25/06 13:45
R601179-13	Lab Control Sample		WATER		RC-048		
R601179-14	Method Blank		WATER		RC-048		
R601179-15	Duplicate (R601179-02)	U-10, Surface Water	WATER		RC-048		01/24/06 09:00
R601179-17	Duplicate (R601179-01)	U-10, Pore Water	WATER		RC-048		01/24/06 10:00
R601179-18	Duplicate (R601179-09)	Cr 1, Pore Water	WATER		RC-048		01/25/06 13:00
R601179-19	Spike (R601179-10)	Cr 2, Pore Water	WATER		RC-048		01/25/06 14:00

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

QC SUMMARY

SDG 7371
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG K0192

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7371	RC-048-158	J111L6	WATER		5 L		01/27/06	3	R601179-01	7371-001
	RC-048-175	J111N6	WATER		5 L		01/27/06	3	R601179-02	7371-002
	RC-048-195	J111W2	WATER		3.5 L		01/27/06	2	R601179-03	7371-003
	RC-048-207	J111X4	WATER		3.5 L		01/27/06	2	R601179-04	7371-004
	RC-048-216	J111Y7	WATER		3.5 L		01/27/06	3	R601179-05	7371-005
	RC-048-217	J111Y8	WATER		3.5 L		01/27/06	3	R601179-06	7371-006
	RC-048-224	J11205	WATER		3.5 L		01/27/06	3	R601179-07	7371-007
	RC-048-225	J11206	WATER		3.5 L		01/27/06	3	R601179-08	7371-008
	RC-048-232	J11218	WATER		3.5 L		01/27/06	2	R601179-09	7371-009
	RC-048-233	J11219	WATER		3.5 L		01/27/06	2	R601179-10	7371-010
	RC-048-248	J11235	WATER		3.5 L		01/27/06	2	R601179-11	7371-011
	RC-048-249	J11236	WATER		3.5 L		01/27/06	2	R601179-12	7371-012
		Method Blank	WATER						R601179-14	7371-014
		Lab Control Sample	WATER						R601179-13	7371-013
		Duplicate (R601179-01)	WATER		5 L		01/27/06	3	R601179-17	7371-017
		Duplicate (R601179-02)	WATER		5 L		01/27/06	3	R601179-15	7371-015
		Duplicate (R601179-09)	WATER		3.5 L		01/27/06	2	R601179-18	7371-018
		Spike (R601179-10)	WATER		3.5 L		01/27/06	2	R601179-19	7371-019

Lab id EBRLNE
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7371
Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0192

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Alpha Spectroscopy												
TH	WATER	Thorium, Isotopic in Water	7131-053	5.0	12			1	1	1/1		
U	WATER	Uranium, Isotopic in Water	7131-053	5.0	12			1	1	1/1		
Beta Counting												
AC	WATER	Radium 228 in Water	7131-053	5.0	12			1	1	1/1		
SR	WATER	Total Strontium in Water	7131-053	10.0	12			1	1	1/1		
Gamma Scan												
GAM	WATER	Gamma Emitters	7131-053	15.0	12			1	1	1/1		
Liquid Scintillation Counting												
C	WATER	Carbon 14 in Water	7131-053	10.0	4			1	1	1/1	1/1	X
H	WATER	Tritium in Water	7131-053	10.0	12			1	1	1/1	1/1	X
Radon Counting												
RA	WATER	Radium 226 in Water	7131-053	5.0	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.

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7371
Contact Melissa C. Mannion

LAB WORK SUMMARY

Client Hanford
Contract No. 630
Case no SDG K0192

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
R601179-01	J111L6			7371-001	AC		03/02/06	03/08/06	MWT	Radium 228 in Water
01/24/06	U-10, Pore Water		WATER	7371-001	GAM		02/21/06	02/27/06	CSS	Gamma Emitters
01/27/06	RC-048-158	RC-048		7371-001	H		03/05/06	03/08/06	MWT	Tritium in Water
				7371-001	RA		03/06/06	03/08/06	MWT	Radium 226 in Water
				7371-001	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-001	TH		03/07/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-001	U		03/01/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-02	J111N6			7371-002	AC		03/02/06	03/08/06	MWT	Radium 228 in Water
01/24/06	U-10, Surface Water		WATER	7371-002	GAM		02/21/06	02/27/06	CSS	Gamma Emitters
01/27/06	RC-048-175	RC-048		7371-002	H		03/05/06	03/08/06	MWT	Tritium in Water
				7371-002	RA		03/06/06	03/08/06	MWT	Radium 226 in Water
				7371-002	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-002	TH		03/07/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-002	U		03/04/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-03	J111W2			7371-003	AC		03/02/06	03/08/06	MWT	Radium 228 in Water
01/25/06	Ref-11, Pore Water		WATER	7371-003	GAM		02/21/06	02/27/06	CSS	Gamma Emitters
01/27/06	RC-048-195	RC-048		7371-003	H		03/05/06	03/08/06	MWT	Tritium in Water
				7371-003	RA		03/06/06	03/08/06	MWT	Radium 226 in Water
				7371-003	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-003	TH		03/07/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-003	U		03/01/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-04	J111X4			7371-004	AC		03/02/06	03/08/06	MWT	Radium 228 in Water
01/25/06	Ref-11, Surface Water		WATER	7371-004	GAM		02/21/06	02/27/06	CSS	Gamma Emitters
01/27/06	RC-048-207	RC-048		7371-004	H		03/05/06	03/08/06	MWT	Tritium in Water
				7371-004	RA		03/06/06	03/08/06	MWT	Radium 226 in Water
				7371-004	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-004	TH		03/07/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-004	U		03/01/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-05	J111Y7			7371-005	AC		03/02/06	03/08/06	MWT	Radium 228 in Water
01/24/06	Ref-14, Pore Water		WATER	7371-005	GAM		02/21/06	02/27/06	CSS	Gamma Emitters
01/27/06	RC-048-216	RC-048		7371-005	H		03/05/06	03/08/06	MWT	Tritium in Water
				7371-005	RA		03/06/06	03/08/06	MWT	Radium 226 in Water
				7371-005	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-005	TH		03/03/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-005	U		03/01/06	03/06/06	MWT	Uranium, Isotopic in Water

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7371
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K0192

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
R601179-06	J111Y8			7371-006	AC		03/02/06	03/08/06	MWT	Radium 228 in Water
01/24/06	Ref-16, Pore Water		WATER	7371-006	GAM		02/21/06	02/27/06	CSS	Gamma Emitters
01/27/06	RC-048-217	RC-048		7371-006	H		03/05/06	03/08/06	MWT	Tritium in Water
				7371-006	RA		03/06/06	03/08/06	MWT	Radium 226 in Water
				7371-006	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-006	TH		03/08/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-006	U		03/01/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-07	J11205			7371-007	AC		03/02/06	03/08/06	MWT	Radium 228 in Water
01/24/06	Ref-14, Surface Water		WATER	7371-007	GAM		02/21/06	02/27/06	CSS	Gamma Emitters
01/27/06	RC-048-224	RC-048		7371-007	H		03/05/06	03/08/06	MWT	Tritium in Water
				7371-007	RA		03/06/06	03/08/06	MWT	Radium 226 in Water
				7371-007	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-007	TH		03/02/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-007	U		03/04/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-08	J11206			7371-008	AC		03/03/06	03/08/06	MWT	Radium 228 in Water
01/24/06	Ref-16, Surface Water		WATER	7371-008	GAM		02/22/06	02/27/06	CSS	Gamma Emitters
01/27/06	RC-048-225	RC-048		7371-008	H		03/05/06	03/08/06	MWT	Tritium in Water
				7371-008	RA		03/06/06	03/08/06	MWT	Radium 226 in Water
				7371-008	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-008	TH		03/03/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-008	U		03/01/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-09	J11218			7371-009	AC		03/03/06	03/08/06	MWT	Radium 228 in Water
01/25/06	Cr 1, Pore Water		WATER	7371-009	C		03/04/06	03/10/06	MWT	Carbon 14 in Water
01/27/06	RC-048-232	RC-048		7371-009	GAM		02/22/06	02/27/06	CSS	Gamma Emitters
				7371-009	H		03/05/06	03/08/06	MWT	Tritium in Water
				7371-009	RA		03/06/06	03/08/06	MWT	Radium 226 in Water
				7371-009	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-009	TH		03/02/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-009	U		03/01/06	03/06/06	MWT	Uranium, Isotopic in Water

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7371
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K0192

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
R601179-10	J11219			7371-010	AC		03/03/06	03/08/06	MWT	Radium 228 in Water
01/25/06	Cr 2, Pore Water		WATER	7371-010	C		03/04/06	03/10/06	MWT	Carbon 14 in Water
01/27/06	RC-048-233	RC-048		7371-010	GAM		02/22/06	02/27/06	CSS	Gamma Emitters
				7371-010	H		03/05/06	03/08/06	MWT	Tritium in Water
				7371-010	RA		03/06/06	03/08/06	MWT	Radium 226 in Water
				7371-010	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-010	TH		03/02/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-010	U		03/01/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-11	J11235			7371-011	AC		03/03/06	03/08/06	MWT	Radium 228 in Water
01/25/06	Cr 1, Surface Water		WATER	7371-011	C		03/04/06	03/10/06	MWT	Carbon 14 in Water
01/27/06	RC-048-248	RC-048		7371-011	GAM		02/22/06	02/27/06	CSS	Gamma Emitters
				7371-011	H		03/06/06	03/08/06	MWT	Tritium in Water
				7371-011	RA		03/07/06	03/08/06	MWT	Radium 226 in Water
				7371-011	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-011	TH		03/03/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-011	U		03/02/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-12	J11236			7371-012	AC		03/03/06	03/08/06	MWT	Radium 228 in Water
01/25/06	Cr 2, Surface Water		WATER	7371-012	C		03/04/06	03/10/06	MWT	Carbon 14 in Water
01/27/06	RC-048-249	RC-048		7371-012	GAM		02/22/06	02/27/06	CSS	Gamma Emitters
				7371-012	H		03/06/06	03/08/06	MWT	Tritium in Water
				7371-012	RA		03/07/06	03/08/06	MWT	Radium 226 in Water
				7371-012	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-012	TH		03/03/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-012	U		03/02/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-13	Lab Control Sample			7371-013	AC		03/02/06	03/08/06	MWT	Radium 228 in Water
			WATER	7371-013	C		03/04/06	03/10/06	MWT	Carbon 14 in Water
		RC-048		7371-013	GAM		02/24/06	02/27/06	CSS	Gamma Emitters
				7371-013	H		03/06/06	03/08/06	MWT	Tritium in Water
				7371-013	RA		03/07/06	03/08/06	MWT	Radium 226 in Water
				7371-013	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-013	TH		03/03/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-013	U		03/02/06	03/06/06	MWT	Uranium, Isotopic in Water

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7371
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K0192

LAB SAMPLE COLLECTED RECEIVED	CLIENT SAMPLE ID LOCATION CUSTODY	SAF No	MATRIX	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
R601179-14	Method Blank			7371-014	AC		03/03/06	03/08/06	MWT	Radium 228 in Water
			WATER	7371-014	C		03/04/06	03/10/06	MWT	Carbon 14 in Water
		RC-048		7371-014	GAM		02/22/06	02/27/06	CSS	Gamma Emitters
				7371-014	H		03/06/06	03/08/06	MWT	Tritium in Water
				7371-014	RA		03/07/06	03/08/06	MWT	Radium 226 in Water
				7371-014	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
				7371-014	TH		03/03/06	03/09/06	MWT	Thorium, Isotopic in Water
				7371-014	U		03/02/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-15	Duplicate (R601179-02)			7371-015	AC		03/03/06	03/08/06	MWT	Radium 228 in Water
01/24/06	U-10, Surface Water		WATER	7371-015	GAM		02/24/06	02/27/06	CSS	Gamma Emitters
01/27/06		RC-048		7371-015	RA		03/07/06	03/08/06	MWT	Radium 226 in Water
R601179-17	Duplicate (R601179-01)			7371-017	SR		03/02/06	03/07/06	MWT	Total Strontium in Water
01/24/06	U-10, Pore Water		WATER	7371-017	TH		03/03/06	03/09/06	MWT	Thorium, Isotopic in Water
01/27/06		RC-048		7371-017	U		03/02/06	03/06/06	MWT	Uranium, Isotopic in Water
R601179-18	Duplicate (R601179-09)			7371-018	C		03/04/06	03/10/06	MWT	Carbon 14 in Water
01/25/06	Cr 1, Pore Water		WATER	7371-018	H		03/06/06	03/08/06	MWT	Tritium in Water
01/27/06		RC-048								
R601179-19	Spike (R601179-10)			7371-019	C		03/04/06	03/10/06	MWT	Carbon 14 in Water
01/25/06	Cr 2, Pore Water		WATER	7371-019	H		03/06/06	03/08/06	MWT	Tritium in Water
01/27/06		RC-048								

Lab id EBRLNE
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG 7371
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG K0192

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
AC	RC-048	Radium 228 in Water	RAISO_SEP_GPC	12			1	1	1		15
C	RC-048	Carbon 14 in Water	C14_CHEM_LSC	4			1	1	1	1	8
GAM	RC-048	Gamma Emitters	GAMMA_GS	12			1	1	1		15
H	RC-048	Tritium in Water	906.0_H3_LSC	12			1	1	1	1	16
RA	RC-048	Radium 226 in Water	903.1_RA226_LUC	12			1	1	1		15
SR	RC-048	Total Strontium in Water	SRTOT_SEP_PRECIP_GPC	12			1	1	1		15
TH	RC-048	Thorium, Isotopic in Water	THISO_IE_PLATE_AEA	12			1	1	1		15
U	RC-048	Uranium, Isotopic in Water	UISO_PLATE_AEA	12			1	1	1		15
TOTALS				88			8	8	8	2	114

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-014 Method Blank

METHOD BLANK

SDG	7371	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601179-14	Client sample id	Method Blank
Dept sample id	7371-014	Material/Matrix	WATER
		SAF No	RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	195	1400	2300	400	U	H
Carbon 14	14762-75-5	17.4	35	59	200	U	C
Total Strontium	SR-RAD	-0.174	0.28	0.59	2.0	U	SR
Radium 228	15262-20-1	-0.408	0.65	1.6	3.0	U	AC
Thorium 228	14274-82-9	-0.054	0.11	0.33		U	TH
Thorium 230	14269-63-7	-0.080	0.054	0.20	1.0	U	TH
Thorium 232	TH-232	0	0.054	0.20	1.0	U	TH
Uranium 233/234	U-233/234	0	0.039	0.15	1.0	U	U
Uranium 235	15117-96-1	0.023	0.047	0.18	1.0	U	U
Uranium 238	U-238	0	0.039	0.15	1.0	U	U
Radium 226	13982-63-3	0.059	0.31	0.59	2.0	U	RA
Potassium 40	13966-00-2	U		110		U	GAM
Cobalt 60	10198-40-0	U		10	25	U	GAM
Cesium 137	10045-97-3	U		11	15	U	GAM
Radium 226	13982-63-3	U		19		U	GAM
Radium 228	15262-20-1	U		39		U	GAM
Europium 152	14683-23-9	U		34	50	U	GAM
Europium 154	15585-10-1	U		27	50	U	GAM
Europium 155	14391-16-3	U		36	50	U	GAM
Thorium 228	14274-82-9	U		16		U	GAM
Thorium 232	TH-232	U		39		U	GAM
Uranium 235	15117-96-1	U		52		U	GAM
Uranium 238	U-238	U		1200		U	GAM
Americium 241	14596-10-2	U		55		U	GAM
Ruthenium 106	13967-48-1	U		86		U	GAM
Antimony 125	14234-35-6	U		28		U	GAM
Beryllium 7	13966-02-4	U		81		U	GAM
Cesium 134	13967-70-9	U		12		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-014 **Method Blank**

BLANK, cont.

SDG	7371	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601179-14	Client sample id	Method Blank
Dept sample id	7371-014	Material/Matrix	WATER
		SAF No	RC-048

QC-BLANK #56024

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-013

Lab Control Sample

LAB CONTROL SAMPLE

SDG 7371
Contact Melissa C. Mannion

Client/Case no Hanford SDG K0192
Contract No. 630

Lab sample id R601179-13
Dept sample id 7371-013

Client sample id Lab Control Sample
Material/Matrix WATER
SAF No RC-048

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Tritium	21400	2100	2300	400		H	22300	890	96	79-121	80-120
Carbon 14	7420	260	130	200		C	7970	320	93	84-116	80-120
Total Strontium	22.9	1.4	0.60	2.0		SR	19.7	0.79	116	79-121	80-120
Radium 228	17.2	1.2	1.7	3.0		AC	16.7	0.67	103	85-115	80-120
Thorium 230	20.5	2.0	0.15	1.0		TH	22.2	0.89	92	84-116	80-120
Uranium 233/234	18.9	1.5	0.66	1.0		U	18.6	0.74	102	84-116	80-120
Uranium 235	15.0	1.3	0.12	1.0		U	15.1	0.60	99	84-116	80-120
Uranium 238	19.2	1.5	0.63	1.0		U	20.2	0.81	95	85-115	80-120
Radium 226	120	3.8	0.64	2.0		RA	112	4.5	107	89-111	80-120
Cobalt 60	552	62	32	25		GAM	582	23	95	73-127	80-120
Cesium 137	587	57	48	15		GAM	592	24	99	73-127	80-120

100&300Area Component RCBRA Water Sa

QC-LCS #56023

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-017 J111L6

DUPLICATE

SDG	7371			Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion			Contract	No. 630
	DUPLICATE		ORIGINAL		
Lab sample id	R601179-17	Lab sample id	R601179-01	Client sample id	J111L6
Dept sample id	7371-017	Dept sample id	7371-001	Location/Matrix	U-10, Pore Water WATER
		Received	01/27/06	Collected/Volume	01/24/06 10:00 5 L
				Custody/SAF No	RC-048-158 RC-048

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	DER σ
Total Strontium	-0.081	0.30	0.62	2.0	U	SR	-0.046	0.26	0.56	U	-		0.2
Thorium 228	-0.010	0.041	0.097		U	TH	-0.032	0.19	0.40	U	-		0.2
Thorium 230	-0.041	0.061	0.12	1.0	U	TH	0.096	0.19	0.25	U	-		1.4
Thorium 232	0	0.041	0.078	1.0	U	TH	0.032	0.064	0.25	U	-		0.8
Uranium 233/234	0.681	0.20	0.11	1.0		U	0.573	0.25	0.23		17	77	0.7
Uranium 235	0	0.034	0.13	1.0	U	U	0.073	0.073	0.28	U	-		1.8
Uranium 238	0.486	0.17	0.11	1.0		U	0.634	0.31	0.23		26	95	0.8

100&300Area Component RCBRA Water Sa

QC-DUP#1 56202

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-015 J111N6

DUPLICATE

SDG	7371			Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion			Contract	No. 630
	DUPLICATE		ORIGINAL		
Lab sample id	R601179-15	Lab sample id	R601179-02	Client sample id	J111N6
Dept sample id	7371-015	Dept sample id	7371-002	Location/Matrix	U-10, Surface Water WATER
		Received	01/27/06	Collected/Volume	01/24/06 09:00 5 L
				Custody/SAF No	RC-048-175 RC-048

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	DER σ
Radium 228	0.146	0.79	1.9	3.0	U	AC	0.548	0.56	1.5	U	-		0.8
Radium 226	-0.233	0.38	0.78	2.0	U	RA	0	0.35	0.65	U	-		0.9
Potassium 40	U		270		U	GAM	U		210	U	-		0.3
Cobalt 60	U		13	25	U	GAM	U		13	U	-		0
Cesium 137	U		13	15	U	GAM	U		12	U	-		0.1
Radium 226	U		25		U	GAM	U		24	U	-		0.1
Radium 228	U		61		U	GAM	U		55	U	-		0.1
Europium 152	U		36	50	U	GAM	U		34	U	-		0.1
Europium 154	U		43	50	U	GAM	U		37	U	-		0.2
Europium 155	U		44	50	U	GAM	U		33	U	-		0.4
Thorium 228	U		21		U	GAM	U		19	U	-		0.1
Thorium 232	U		61		U	GAM	U		55	U	-		0.1
Uranium 235	U		59		U	GAM	U		47	U	-		0.3
Uranium 238	U		1800		U	GAM	U		1600	U	-		0.2
Americium 241	U		99		U	GAM	U		46	U	-		1.0
Ruthenium 106	U		130		U	GAM	U		110	U	-		0.2
Antimony 125	U		30		U	GAM	U		33	U	-		0.1
Beryllium 7	U		140		U	GAM	U		140	U	-		0
Cesium 134	U		16		U	GAM	U		16	U	-		0

100&300Area Component RCBRA Water Sa

QC-DUP#11 56025
QC-DUP#2 56025

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-018

J11218

DUPLICATE

SDG	7371			Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion			Contract	No. 630
DUPLICATE		ORIGINAL			
Lab sample id	R601179-18	Lab sample id	R601179-09	Client sample id	J11218
Dept sample id	7371-018	Dept sample id	7371-009	Location/Matrix	Cr 1, Pore Water WATER
		Received	01/27/06	Collected/Volume	01/25/06 13:00 3.5 L
				Custody/SAF No	RC-048-232 RC-048

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	DER σ
Tritium	796	170	240	400		H	782	170	240		2	50	0.1
Carbon 14	20.3	35	58	200	U	C	17.8	34	57	U	-		0.1

100&300Area Component RCBRA Water Sa

QC-DUP#9 56308

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DUP
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-019 J11219

MATRIX SPIKE

SDG 7371		Client/Case no Hanford	SDG K0192
Contact Melissa C. Mannion		Contract No. 630	
MATRIX SPIKE	ORIGINAL		
Lab sample id R601179-19	Lab sample id R601179-10	Client sample id J11219	
Dept sample id 7371-019	Dept sample id 7371-010	Location/Matrix Cr 2, Pore Water	WATER
	Received 01/27/06	Collected/Volume 01/25/06 14:00	3.5 L
		Custody/SAF No RC-048-233	RC-048

ANALYTE	SPIKE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	ORIGINAL pCi/L	2σ ERR (COUNT)	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Tritium	28000	870	360	400	X	H	29800	1200	48.6	140	94	84-116	60-140
Carbon 14	23900	810	280	200	X	C	23900	960	37.5	36	100	83-117	60-140

100&300Area Component RCBRA Water Sa

QC-MS#10 56309

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-MS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-001 J111L6

DATA SHEET

SDG	7371	Client/Case no	Hanford	SDG K0192	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R601179-01	Client sample id	J111L6		
Dept sample id	7371-001	Location/Matrix	U-10, Pore Water	WATER	
Received	01/27/06	Collected/Volume	01/24/06 10:00	5 L	
		Custody/SAF No	RC-048-158	RC-048	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-42.8	140	240	400	U	H
Total Strontium	SR-RAD	-0.046	0.26	0.56	2.0	U	SR
Radium 228	15262-20-1	-0.033	0.63	1.8	3.0	U	AC
Thorium 228	14274-82-9	-0.032	0.19	0.40		U	TH
Thorium 230	14269-63-7	0.096	0.19	0.25	1.0	U	TH
Thorium 232	TH-232	0.032	0.064	0.25	1.0	U	TH
Uranium 233/234	U-233/234	0.573	0.25	0.23	1.0		U
Uranium 235	15117-96-1	0.073	0.073	0.28	1.0	U	U
Uranium 238	U-238	0.634	0.31	0.23	1.0		U
Radium 226	13982-63-3	0.065	0.39	0.70	2.0	U	RA
Potassium 40	13966-00-2	U		250		U	GAM
Cobalt 60	10198-40-0	U		12	25	U	GAM
Cesium 137	10045-97-3	U		11	15	U	GAM
Radium 226	13982-63-3	U		22		U	GAM
Radium 228	15262-20-1	U		46		U	GAM
Europium 152	14683-23-9	U		26	50	U	GAM
Europium 154	15585-10-1	U		30	50	U	GAM
Europium 155	14391-16-3	U		29	50	U	GAM
Thorium 228	14274-82-9	U		14		U	GAM
Thorium 232	TH-232	U		46		U	GAM
Uranium 235	15117-96-1	U		37		U	GAM
Uranium 238	U-238	U		1200		U	GAM
Americium 241	14596-10-2	U		49		U	GAM
Ruthenium 106	13967-48-1	U		79		U	GAM
Antimony 125	14234-35-6	U		25		U	GAM
Beryllium 7	13966-02-4	U		96		U	GAM
Cesium 134	13967-70-9	U		18		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-002 J111N6

DATA SHEET

SDG	7371	Client/Case no	Hanford SDG_K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601179-02	Client sample id	J111N6
Dept sample id	7371-002	Location/Matrix	U-10, Surface Water WATER
Received	01/27/06	Collected/Volume	01/24/06 09:00 5 L
		Custody/SAF No	RC-048-175 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	269	150	230	400		H
Total Strontium	SR-RAD	0.183	0.35	0.58	2.0	U	SR
Radium 228	15262-20-1	0.548	0.56	1.5	3.0	U	AC
Thorium 228	14274-82-9	0	0.043	0.17		U	TH
Thorium 230	14269-63-7	0	0.086	0.16	1.0	U	TH
Thorium 232	TH-232	0	0.043	0.16	1.0	U	TH
Uranium 233/234	U-233/234	0.720	0.12	0.055	1.0		U
Uranium 235	15117-96-1	0.036	0.036	0.046	1.0	U	U
Uranium 238	U-238	0.631	0.11	0.048	1.0		U
Radium 226	13982-63-3	0	0.35	0.65	2.0	U	RA
Potassium 40	13966-00-2	U		210		U	GAM
Cobalt 60	10198-40-0	U		13	25	U	GAM
Cesium 137	10045-97-3	U		12	15	U	GAM
Radium 226	13982-63-3	U		24		U	GAM
Radium 228	15262-20-1	U		55		U	GAM
Europium 152	14683-23-9	U		34	50	U	GAM
Europium 154	15585-10-1	U		37	50	U	GAM
Europium 155	14391-16-3	U		33	50	U	GAM
Thorium 228	14274-82-9	U		19		U	GAM
Thorium 232	TH-232	U		55		U	GAM
Uranium 235	15117-96-1	U		47		U	GAM
Uranium 238	U-238	U		1600		U	GAM
Americium 241	14596-10-2	U		46		U	GAM
Ruthenium 106	13967-48-1	U		110		U	GAM
Antimony 125	14234-35-6	U		33		U	GAM
Beryllium 7	13966-02-4	U		140		U	GAM
Cesium 134	13967-70-9	U		16		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-003 J111W2

DATA SHEET

SDG	7371	Client/Case no	Hanford SDG_K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601179-03	Client sample id	J111W2
Dept sample id	7371-003	Location/Matrix	Ref-11, Pore Water WATER
Received	01/27/06	Collected/Volume	01/25/06 10:30 3.5 L
		Custody/SAF No	RC-048-195 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-118	140	240	400	U	H
Total Strontium	SR-RAD	0.279	0.42	0.79	2.0	U	SR
Radium 228	15262-20-1	0	0.005	0.014	3.0	U	AC
Thorium 228	14274-82-9	0.024	0.15	0.27		U	TH
Thorium 230	14269-63-7	-0.024	0.097	0.19	1.0	U	TH
Thorium 232	TH-232	0	0.049	0.19	1.0	U	TH
Uranium 233/234	U-233/234	0.367	0.19	0.23	1.0		U
Uranium 235	15117-96-1	0.037	0.074	0.28	1.0	U	U
Uranium 238	U-238	0.306	0.19	0.23	1.0		U
Radium 226	13982-63-3	0.039	0.31	0.57	2.0	U	RA
Potassium 40	13966-00-2	U		87		U	GAM
Cobalt 60	10198-40-0	U		9.0	25	U	GAM
Cesium 137	10045-97-3	U		8.3	15	U	GAM
Radium 226	13982-63-3	U		17		U	GAM
Radium 228	15262-20-1	U		36		U	GAM
Europium 152	14683-23-9	U		28	50	U	GAM
Europium 154	15585-10-1	U		24	50	U	GAM
Europium 155	14391-16-3	U		31	50	U	GAM
Thorium 228	14274-82-9	U		15		U	GAM
Thorium 232	TH-232	U		36		U	GAM
Uranium 235	15117-96-1	U		43		U	GAM
Uranium 238	U-238	U		1100		U	GAM
Americium 241	14596-10-2	U		47		U	GAM
Ruthenium 106	13967-48-1	U		85		U	GAM
Antimony 125	14234-35-6	U		23		U	GAM
Beryllium 7	13966-02-4	U		94		U	GAM
Cesium 134	13967-70-9	U		11		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-004 J111X4

DATA SHEET

SDG	7371	Client/Case no	Hanford	SDG K0192	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R601179-04	Client sample id	J111X4		
Dept sample id	7371-004	Location/Matrix	Ref-11, Surface Water	WATER	
Received	01/27/06	Collected/Volume	01/25/06 11:30	3.5 L	
		Custody/SAF No	RC-048-207	RC-048	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-29.0	140	240	400	U	H
Total Strontium	SR-RAD	-0.061	0.35	0.75	2.0	U	SR
Radium 228	15262-20-1	0.083	0.62	1.7	3.0	U	AC
Thorium 228	14274-82-9	0.096	0.19	0.37		U	TH
Thorium 230	14269-63-7	0	0.095	0.36	1.0	U	TH
Thorium 232	TH-232	0	0.095	0.36	1.0	U	TH
Uranium 233/234	U-233/234	0.347	0.19	0.24	1.0		U
Uranium 235	15117-96-1	0	0.076	0.29	1.0	U	U
Uranium 238	U-238	0.221	0.19	0.24	1.0	U	U
Radium 226	13982-63-3	0.113	0.28	0.50	2.0	U	RA
Potassium 40	13966-00-2	U		690		U	GAM
Cobalt 60	10198-40-0	U		24	25	U	GAM
Cesium 137	10045-97-3	U		24	15	U	GAM
Radium 226	13982-63-3	U		54		U	GAM
Radium 228	15262-20-1	U		120		U	GAM
Europium 152	14683-23-9	U		66	50	U	GAM
Europium 154	15585-10-1	U		72	50	U	GAM
Europium 155	14391-16-3	U		80	50	U	GAM
Thorium 228	14274-82-9	U		38		U	GAM
Thorium 232	TH-232	U		120		U	GAM
Uranium 235	15117-96-1	U		96		U	GAM
Uranium 238	U-238	U		2700		U	GAM
Americium 241	14596-10-2	U		200		U	GAM
Ruthenium 106	13967-48-1	U		200		U	GAM
Antimony 125	14234-35-6	U		52		U	GAM
Beryllium 7	13966-02-4	U		250		U	GAM
Cesium 134	13967-70-9	U		26		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-005 J111Y7

DATA SHEET

SDG	7371	Client/Case no	Hanford	SDG K0192	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R601179-05	Client sample id	J111Y7		
Dept sample id	7371-005	Location/Matrix	Ref-14, Pore Water	WATER	
Received	01/27/06	Collected/Volume	01/24/06 16:30	3.5 L	
		Custody/SAF No	RC-048-216	RC-048	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-48.7	140	240	400	U	H
Total Strontium	SR-RAD	0.073	0.35	0.70	2.0	U	SR
Radium 228	15262-20-1	0.297	0.74	2.0	3.0	U	AC
Thorium 228	14274-82-9	0.037	0.11	0.18		U	TH
Thorium 230	14269-63-7	-0.037	0.075	0.18	1.0	U	TH
Thorium 232	TH-232	-0.019	0.037	0.14	1.0	U	TH
Uranium 233/234	U-233/234	0.285	0.17	0.22	1.0		U
Uranium 235	15117-96-1	0.035	0.069	0.26	1.0	U	U
Uranium 238	U-238	0.200	0.17	0.22	1.0	U	U
Radium 226	13982-63-3	0.033	0.31	0.57	2.0	U	RA
Potassium 40	13966-00-2	U		92		U	GAM
Cobalt 60	10198-40-0	U		9.0	25	U	GAM
Cesium 137	10045-97-3	U		11	15	U	GAM
Radium 226	13982-63-3	U		21		U	GAM
Radium 228	15262-20-1	U		37		U	GAM
Europium 152	14683-23-9	U		33	50	U	GAM
Europium 154	15585-10-1	U		31	50	U	GAM
Europium 155	14391-16-3	U		40	50	U	GAM
Thorium 228	14274-82-9	U		18		U	GAM
Thorium 232	TH-232	U		37		U	GAM
Uranium 235	15117-96-1	U		53		U	GAM
Uranium 238	U-238	U		1200		U	GAM
Americium 241	14596-10-2	U		57		U	GAM
Ruthenium 106	13967-48-1	U		99		U	GAM
Antimony 125	14234-35-6	U		27		U	GAM
Beryllium 7	13966-02-4	U		130		U	GAM
Cesium 134	13967-70-9	U		13		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-006 J111Y8

DATA SHEET

SDG	7371	Client/Case no	Hanford	SDG K0192	
Contact	Melissa C. Mannion	Contract	No. 630		
Lab sample id	R601179-06	Client sample id	J111Y8		
Dept sample id	7371-006	Location/Matrix	Ref-16, Pore Water	WATER	
Received	01/27/06	Collected/Volume	01/24/06 14:45	3.5 L	
		Custody/SAF No	RC-048-217	RC-048	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-48.3	140	240	400	U	H
Total Strontium	SR-RAD	-0.074	0.32	0.70	2.0	U	SR
Radium 228	15262-20-1	0.191	4.6	1.8	3.0	U	AC
Thorium 228	14274-82-9	0	0.059	0.22		U	TH
Thorium 230	14269-63-7	-0.058	0.058	0.22	1.0	U	TH
Thorium 232	TH-232	0	0.058	0.22	1.0	U	TH
Uranium 233/234	U-233/234	0.210	0.16	0.20	1.0		U
Uranium 235	15117-96-1	0.032	0.064	0.24	1.0	U	U
Uranium 238	U-238	0.289	0.16	0.20	1.0		U
Radium 226	13982-63-3	-0.119	0.24	0.50	2.0	U	RA
Potassium 40	13966-00-2	U		280		U	GAM
Cobalt 60	10198-40-0	U		14	25	U	GAM
Cesium 137	10045-97-3	U		13	15	U	GAM
Radium 226	13982-63-3	U		24		U	GAM
Radium 228	15262-20-1	U		67		U	GAM
Europium 152	14683-23-9	U		36	50	U	GAM
Europium 154	15585-10-1	U		43	50	U	GAM
Europium 155	14391-16-3	U		43	50	U	GAM
Thorium 228	14274-82-9	U		20		U	GAM
Thorium 232	TH-232	U		67		U	GAM
Uranium 235	15117-96-1	U		61		U	GAM
Uranium 238	U-238	U		1800		U	GAM
Americium 241	14596-10-2	U		110		U	GAM
Ruthenium 106	13967-48-1	U		130		U	GAM
Antimony 125	14234-35-6	U		31		U	GAM
Beryllium 7	13966-02-4	U		150		U	GAM
Cesium 134	13967-70-9	U		17		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-007 J11205

DATA SHEET

SDG	7371	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601179-07	Client sample id	J11205
Dept sample id	7371-007	Location/Matrix	Ref-14, Surface Water WATER
Received	01/27/06	Collected/Volume	01/24/06 16:00 3.5 L
		Custody/SAF No	RC-048-224 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-17.2	140	240	400	U	H
Total Strontium	SR-RAD	0.193	0.34	0.65	2.0	U	SR
Radium 228	15262-20-1	-0.019	0.67	1.8	3.0	U	AC
Thorium 228	14274-82-9	0.021	0.054	0.087		U	TH
Thorium 230	14269-63-7	-0.032	0.054	0.12	1.0	U	TH
Thorium 232	TH-232	-0.011	0.021	0.051	1.0	U	TH
Uranium 233/234	U-233/234	0.200	0.083	0.053	1.0		U
Uranium 235	15117-96-1	0.017	0.033	0.064	1.0	U	U
Uranium 238	U-238	0.220	0.083	0.053	1.0		U
Radium 226	13982-63-3	0.030	0.32	0.60	2.0	U	RA
Potassium 40	13966-00-2	U		340		U	GAM
Cobalt 60	10198-40-0	U		16	25	U	GAM
Cesium 137	10045-97-3	U		13	15	U	GAM
Radium 226	13982-63-3	U		27		U	GAM
Radium 228	15262-20-1	U		61		U	GAM
Europium 152	14683-23-9	U		32	50	U	GAM
Europium 154	15585-10-1	U		39	50	U	GAM
Europium 155	14391-16-3	U		38	50	U	GAM
Thorium 228	14274-82-9	U		18		U	GAM
Thorium 232	TH-232	U		61		U	GAM
Uranium 235	15117-96-1	U		45		U	GAM
Uranium 238	U-238	U		1500		U	GAM
Americium 241	14596-10-2	U		60		U	GAM
Ruthenium 106	13967-48-1	U		97		U	GAM
Antimony 125	14234-35-6	U		30		U	GAM
Beryllium 7	13966-02-4	U		120		U	GAM
Cesium 134	13967-70-9	U		16		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-008 J11206

DATA SHEET

SDG	7371	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601179-08	Client sample id	J11206
Dept sample id	7371-008	Location/Matrix	Ref-16, Surface Water WATER
Received	01/27/06	Collected/Volume	01/24/06 14:00 3.5 L
		Custody/SAF No	RC-048-225 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	47.3	140	230	400	U	H
Total Strontium	SR-RAD	-0.043	0.35	0.73	2.0	U	SR
Radium 228	15262-20-1	-0.154	0.60	1.7	3.0	U	AC
Thorium 228	14274-82-9	0	0.057	0.11		U	TH
Thorium 230	14269-63-7	-0.057	0.057	0.11	1.0	U	TH
Thorium 232	TH-232	0	0.029	0.11	1.0	U	TH
Uranium 233/234	U-233/234	0.125	0.10	0.19	1.0	U	U
Uranium 235	15117-96-1	0.030	0.060	0.23	1.0	U	U
Uranium 238	U-238	0.075	0.10	0.19	1.0	U	U
Radium 226	13982-63-3	-0.247	0.34	0.69	2.0	U	RA
Potassium 40	13966-00-2	U		690		U	GAM
Cobalt 60	10198-40-0	U		23	25	U	GAM
Cesium 137	10045-97-3	U		24	15	U	GAM
Radium 226	13982-63-3	U		56		U	GAM
Radium 228	15262-20-1	U		120		U	GAM
Europium 152	14683-23-9	U		64	50	U	GAM
Europium 154	15585-10-1	U		67	50	U	GAM
Europium 155	14391-16-3	U		80	50	U	GAM
Thorium 228	14274-82-9	U		38		U	GAM
Thorium 232	TH-232	U		120		U	GAM
Uranium 235	15117-96-1	U		93		U	GAM
Uranium 238	U-238	U		2800		U	GAM
Americium 241	14596-10-2	U		200		U	GAM
Ruthenium 106	13967-48-1	U		210		U	GAM
Antimony 125	14234-35-6	U		55		U	GAM
Beryllium 7	13966-02-4	U		250		U	GAM
Cesium 134	13967-70-9	U		27		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-009 J11218

DATA SHEET

SDG	7371	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601179-09	Client sample id	J11218
Dept sample id	7371-009	Location/Matrix	Cr 1, Pore Water WATER
Received	01/27/06	Collected/Volume	01/25/06 13:00 3.5 L
		Custody/SAF No	RC-048-232 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	782	170	240	400		H
Carbon 14	14762-75-5	17.8	34	57	200	U	C
Total Strontium	SR-RAD	-0.081	0.36	0.77	2.0	U	SR
Radium 228	15262-20-1	-0.579	0.58	1.7	3.0	U	AC
Thorium 228	14274-82-9	0.018	0.061	0.10		U	TH
Thorium 230	14269-63-7	-0.049	0.049	0.10	1.0	U	TH
Thorium 232	TH-232	0	0.024	0.046	1.0	U	TH
Uranium 233/234	U-233/234	0.310	0.17	0.22	1.0		U
Uranium 235	15117-96-1	0	0.068	0.26	1.0	U	U
Uranium 238	U-238	0.085	0.11	0.22	1.0	U	U
Radium 226	13982-63-3	0.252	0.31	0.52	2.0	U	RA
Potassium 40	13966-00-2	U		92		U	GAM
Cobalt 60	10198-40-0	U		11	25	U	GAM
Cesium 137	10045-97-3	U		11	15	U	GAM
Radium 226	13982-63-3	U		21		U	GAM
Radium 228	15262-20-1	U		42		U	GAM
Europium 152	14683-23-9	U		36	50	U	GAM
Europium 154	15585-10-1	U		33	50	U	GAM
Europium 155	14391-16-3	U		37	50	U	GAM
Thorium 228	14274-82-9	U		17		U	GAM
Thorium 232	TH-232	U		42		U	GAM
Uranium 235	15117-96-1	U		53		U	GAM
Uranium 238	U-238	U		1200		U	GAM
Americium 241	14596-10-2	U		56		U	GAM
Ruthenium 106	13967-48-1	U		99		U	GAM
Antimony 125	14234-35-6	U		29		U	GAM
Beryllium 7	13966-02-4	U		120		U	GAM
Cesium 134	13967-70-9	U		13		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-010 J11219

DATA SHEET

SDG	7371	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601179-10	Client sample id	J11219
Dept sample id	7371-010	Location/Matrix	Cr 2, Pore Water WATER
Received	01/27/06	Collected/Volume	01/25/06 14:00 3.5 L
		Custody/SAF No	RC-048-233 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	48.6	140	240	400	U	H
Carbon 14	14762-75-5	37.5	36	59	200	U	C
Total Strontium	SR-RAD	-0.078	0.35	0.74	2.0	U	SR
Radium 228	15262-20-1	-0.041	0.70	1.9	3.0	U	AC
Thorium 228	14274-82-9	0.016	0.066	0.12		U	TH
Thorium 230	14269-63-7	-0.065	0.049	0.12	1.0	U	TH
Thorium 232	TH-232	-0.016	0.016	0.063	1.0	U	TH
Uranium 233/234	U-233/234	0.323	0.20	0.25	1.0		U
Uranium 235	15117-96-1	0.078	0.079	0.30	1.0	U	U
Uranium 238	U-238	0.162	0.13	0.25	1.0	U	U
Radium 226	13982-63-3	-0.117	0.26	0.54	2.0	U	RA
Potassium 40	13966-00-2	U		270		U	GAM
Cobalt 60	10198-40-0	U		14	25	U	GAM
Cesium 137	10045-97-3	U		12	15	U	GAM
Radium 226	13982-63-3	U		26		U	GAM
Radium 228	15262-20-1	U		60		U	GAM
Europium 152	14683-23-9	U		34	50	U	GAM
Europium 154	15585-10-1	U		44	50	U	GAM
Europium 155	14391-16-3	U		41	50	U	GAM
Thorium 228	14274-82-9	U		21		U	GAM
Thorium 232	TH-232	U		60		U	GAM
Uranium 235	15117-96-1	U		59		U	GAM
Uranium 238	U-238	U		1700		U	GAM
Americium 241	14596-10-2	U		93		U	GAM
Ruthenium 106	13967-48-1	U		110		U	GAM
Antimony 125	14234-35-6	U		31		U	GAM
Beryllium 7	13966-02-4	U		140		U	GAM
Cesium 134	13967-70-9	U		16		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-011 J11235

DATA SHEET

SDG	7371	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601179-11	Client sample id	J11235
Dept sample id	7371-011	Location/Matrix	Cr 1, Surface Water WATER
Received	01/27/06	Collected/Volume	01/25/06 12:30 3.5 L
		Custody/SAF No	RC-048-248 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	-39.8	140	240	400	U	H
Carbon 14	14762-75-5	14.8	35	58	200	U	C
Total Strontium	SR-RAD	0.032	0.38	0.77	2.0	U	SR
Radium 228	15262-20-1	-0.090	0.67	1.9	3.0	U	AC
Thorium 228	14274-82-9	0.040	0.053	0.10		U	TH
Thorium 230	14269-63-7	-0.026	0.079	0.18	1.0	U	TH
Thorium 232	TH-232	-0.039	0.026	0.13	1.0	U	TH
Uranium 233/234	U-233/234	0.120	0.091	0.12	1.0		U
Uranium 235	15117-96-1	0.018	0.036	0.14	1.0	U	U
Uranium 238	U-238	0.211	0.12	0.12	1.0		U
Radium 226	13982-63-3	-0.046	0.38	0.70	2.0	U	RA
Potassium 40	13966-00-2	U		270		U	GAM
Cobalt 60	10198-40-0	U		17	25	U	GAM
Cesium 137	10045-97-3	U		19	15	U	GAM
Radium 226	13982-63-3	U		29		U	GAM
Radium 228	15262-20-1	U		78		U	GAM
Europium 152	14683-23-9	U		47	50	U	GAM
Europium 154	15585-10-1	U		68	50	U	GAM
Europium 155	14391-16-3	U		44	50	U	GAM
Thorium 228	14274-82-9	U		42		U	GAM
Thorium 232	TH-232	U		78		U	GAM
Uranium 235	15117-96-1	U		66		U	GAM
Uranium 238	U-238	U		2100		U	GAM
Americium 241	14596-10-2	U		62		U	GAM
Ruthenium 106	13967-48-1	U		160		U	GAM
Antimony 125	14234-35-6	U		42		U	GAM
Beryllium 7	13966-02-4	U		190		U	GAM
Cesium 134	13967-70-9	U		21		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

7371-012 J11236

DATA SHEET

SDG	7371	Client/Case no	Hanford SDG K0192
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R601179-12	Client sample id	J11236
Dept sample id	7371-012	Location/Matrix	Cr 2, Surface Water WATER
Received	01/27/06	Collected/Volume	01/25/06 13:45 3.5 L
		Custody/SAF No	RC-048-249 RC-048

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Tritium	10028-17-8	5.75	140	240	400	U	H
Carbon 14	14762-75-5	20.0	34	57	200	U	C
Total Strontium	SR-RAD	-0.254	0.31	0.73	2.0	U	SR
Radium 228	15262-20-1	-0.072	0.95	2.0	3.0	U	AC
Thorium 228	14274-82-9	0.052	0.10	0.19		U	TH
Thorium 230	14269-63-7	0	0.069	0.13	1.0	U	TH
Thorium 232	TH-232	-0.017	0.035	0.13	1.0	U	TH
Uranium 233/234	U-233/234	0.217	0.13	0.13	1.0		U
Uranium 235	15117-96-1	0	0.040	0.15	1.0	U	U
Uranium 238	U-238	0.033	0.033	0.13	1.0	U	U
Radium 226	13982-63-3	-0.172	0.26	0.58	2.0	U	RA
Potassium 40	13966-00-2	U		300		U	GAM
Cobalt 60	10198-40-0	U		14	25	U	GAM
Cesium 137	10045-97-3	U		13	15	U	GAM
Radium 226	13982-63-3	U		27		U	GAM
Radium 228	15262-20-1	U		52		U	GAM
Europium 152	14683-23-9	U		30	50	U	GAM
Europium 154	15585-10-1	U		36	50	U	GAM
Europium 155	14391-16-3	U		36	50	U	GAM
Thorium 228	14274-82-9	U		17		U	GAM
Thorium 232	TH-232	U		52		U	GAM
Uranium 235	15117-96-1	U		42		U	GAM
Uranium 238	U-238	U		1400		U	GAM
Americium 241	14596-10-2	U		55		U	GAM
Ruthenium 106	13967-48-1	U		94		U	GAM
Antimony 125	14234-35-6	U		29		U	GAM
Beryllium 7	13966-02-4	U		110		U	GAM
Cesium 134	13967-70-9	U		16		U	GAM

100&300Area Component RCBRA Water Sa

Lab id	EBRLNE
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test TH Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

THORIUM, ISOTOPIC IN WATER

ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Thorium 230	
Preparation batch 7131-053						
R601179-01			7371-001	J111L6	U	
R601179-02			7371-002	J111N6	U	
R601179-03			7371-003	J111W2	U	
R601179-04			7371-004	J111X4	U	
R601179-05			7371-005	J111Y7	U	
R601179-06			7371-006	J111Y8	U	
R601179-07			7371-007	J11205	U	
R601179-08			7371-008	J11206	U	
R601179-09			7371-009	J11218	U	
R601179-10			7371-010	J11219	U	
R601179-11			7371-011	J11235	U	
R601179-12			7371-012	J11236	U	
R601179-13			7371-013	Lab Control Sample	ok	
R601179-14			7371-014	Method Blank	U	
R601179-17			7371-017	Duplicate (R601179-01)	-	U

Nominal values and limits from method RDLs (pCi/L) 1.0
100&300Area Component RCBRA Water Sa

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test TH Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

THORIUM, ISOTOPIC IN WATER

ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MAX MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-053			2σ prep error 5.0 %		Reference Lab Notebook 7131 pg. 53											
R601179-01			J111L6	0.25	0.500			40		170			42	03/01/06	03/07	SS-036
R601179-02			J111N6	0.16	0.500			60		171			42	03/01/06	03/07	SS-038
R601179-03			J111W2	0.19	0.500			65		171			41	03/01/06	03/07	SS-039
R601179-04			J111X4	0.36	0.500			37		171			41	03/01/06	03/07	SS-040
R601179-05			J111Y7	0.18	0.500			39		340			38	03/01/06	03/03	SS-078
R601179-06			J111Y8	0.22	0.500			51		166			43	03/01/06	03/08	SS-028
R601179-07			J11205	0.12	0.500			54		806			37	03/01/06	03/02	SS-070
R601179-08			J11206	0.11	0.500			48		338			38	03/01/06	03/03	SS-067
R601179-09			J11218	0.10	0.500			47		806			36	03/01/06	03/02	SS-072
R601179-10			J11219	0.12	0.500			38		808			36	03/01/06	03/02	SS-078
R601179-11			J11235	0.18	0.500			52		338			37	03/01/06	03/03	SS-069
R601179-12			J11236	0.13	0.500			40		338			37	03/01/06	03/03	SS-070
R601179-13			Lab Control Sample	0.15	0.500			43		338				03/01/06	03/03	SS-071
R601179-14			Method Blank	0.20	0.500			25		339				03/01/06	03/03	SS-072
R601179-17			Duplicate (R601179-01)	0.12	0.500			66		339			38	03/01/06	03/03	SS-077
Nominal values and limits from method				1.0	0.500			20-110		150	100		180			

PROCEDURES	REFERENCE	THISO_IE_PLATE_AEA
	SPP-062	Sample Aliquoting, rev 0
	CP-900	Thorium in Water and Dissolved Solid Samples by Extraction Chromatography, rev 1
	CP-008	Heavy Element Electroplating, rev 9

AVERAGES ± 2 SD	MDA	0.17	±	0.14
FOR 15 SAMPLES	YIELD	47	±	23

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test U Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

URANIUM, ISOTOPIC IN WATER

ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	1: Uranium 233/234	2: Uranium 235	3: Uranium 238	RESULT RATIOS (%) 1+3	2σ	2+3	2σ
Preparation batch 7131-053											
R601179-01			7371-001	J111L6	0.573	U	0.634	90	59	12	13
R601179-02			7371-002	J111N6	0.720	U	0.631	114	28	6	6
R601179-03			7371-003	J111W2	0.367	U	0.306	120	97	12	25
R601179-04			7371-004	J111X4	0.347	U	U				
R601179-05			7371-005	J111Y7	0.285	U	U				
R601179-06			7371-006	J111Y8	0.210	U	0.289	73	68	11	23
R601179-07			7371-007	J11205	0.200	U	0.220	91	51	8	15
R601179-08			7371-008	J11206	U	U	U				
R601179-09			7371-009	J11218	0.310	U	U				
R601179-10			7371-010	J11219	0.323	U	U				
R601179-11			7371-011	J11235	0.120	U	0.211	57	54	9	18
R601179-12			7371-012	J11236	0.217	U	U				
R601179-13			7371-013	Lab Control Sample	ok	ok	ok				
R601179-14			7371-014	Method Blank	U	U	U				
R601179-17			7371-017	Duplicate (R601179-01)	ok	- U	ok	140	64	0	7
Nominal values and limits from method				RDLs (pCi/L)	1.0	1.0	1.0	100		4	
100&300Area Component RCBRA Water Sa								Averages 98		8	

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test U Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

URANIUM, ISOTOPIC IN WATER

ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MAX MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-053			2σ prep error 5.0 %		Reference Lab Notebook 7131 pg. 53											
R601179-01			J111L6	0.28	0.500			64		113			36	02/28/06	03/01	SS-068
R601179-02			J111N6	0.055	0.500			68		761			39	02/28/06	03/04	SS-027
R601179-03			J111W2	0.28	0.500			67		113			35	02/28/06	03/01	SS-070
R601179-04			J111X4	0.29	0.500			64		113			35	02/28/06	03/01	SS-071
R601179-05			J111Y7	0.26	0.500			70		114			36	02/28/06	03/01	SS-072
R601179-06			J111Y8	0.24	0.500			80		114			36	02/28/06	03/01	SS-073
R601179-07			J11205	0.064	0.500			89		425			39	02/28/06	03/04	SS-029
R601179-08			J11206	0.23	0.500			80		114			36	02/28/06	03/01	SS-075
R601179-09			J11218	0.26	0.500			70		114			35	02/28/06	03/01	SS-077
R601179-10			J11219	0.30	0.500			67		115			35	02/28/06	03/01	SS-078
R601179-11			J11235	0.14	0.500			83		210			36	02/28/06	03/02	SS-031
R601179-12			J11236	0.15	0.500			74		210			36	02/28/06	03/02	SS-032
R601179-13			Lab Control Sample	0.66	0.500			93		210				02/28/06	03/02	SS-033
R601179-14			Method Blank	0.18	0.500			67		211				02/28/06	03/02	SS-034
R601179-17			Duplicate (R601179-01)	0.13	0.500			76		210			37	02/28/06	03/02	SS-035
Nominal values and limits from method				1.0	0.500			30-105		100	100		180			

PROCEDURES	REFERENCE	UISO_PLATE_AEA
	SPP-062	Sample Aliquoting, rev 0
	CP-040	Environmental Water Dissolution, rev 9
	CP-921	Uranium in Water and Dissolved Samples by Extraction Chromatography, rev 1
	CP-008	Heavy Element Electroplating, rev 9

AVERAGES ± 2 SD FOR 15 SAMPLES
MDA 0.23 ± 0.29
YIELD 74 ± 18

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test AC Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

RADIUM 228 IN WATER

BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium 228	
Preparation batch 7131-053						
R601179-01			7371-001	J111L6	U	
R601179-02			7371-002	J111N6	U	
R601179-03			7371-003	J111W2	U	
R601179-04			7371-004	J111X4	U	
R601179-05			7371-005	J111Y7	U	
R601179-06			7371-006	J111Y8	U	
R601179-07			7371-007	J11205	U	
R601179-08			7371-008	J11206	U	
R601179-09			7371-009	J11218	U	
R601179-10			7371-010	J11219	U	
R601179-11			7371-011	J11235	U	
R601179-12			7371-012	J11236	U	
R601179-13			7371-013	Lab Control Sample	ok	
R601179-14			7371-014	Method Blank	U	
R601179-15			7371-015	Duplicate (R601179-02)	-	U

Nominal values and limits from method RDLs (pCi/L) 3.0
100&300Area Component RCBRA Water Sa

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test AC Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

RADIUM 228 IN WATER

BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-053			2σ prep error 5.0 %	Reference Lab Notebook 7131 pg. 53												
R601179-01			J111L6	1.8	0.500			70		150			37	03/02/06	03/02	GRB-221
R601179-02			J111N6	1.5	0.500			82		150			37	03/02/06	03/02	GRB-222
R601179-03			J111W2	0.014	61.7			72		150			36	03/02/06	03/02	GRB-223
R601179-04			J111X4	1.7	0.500			70		150			36	03/02/06	03/02	GRB-224
R601179-05			J111Y7	2.0	0.500			66		150			37	03/02/06	03/02	GRB-229
R601179-06			J111Y8	1.8	0.500			69		150			37	03/02/06	03/02	GRB-230
R601179-07			J11205	1.8	0.500			70		150			37	03/02/06	03/02	GRB-231
R601179-08			J11206	1.7	0.500			70		150			38	03/02/06	03/03	GRB-217
R601179-09			J11218	1.7	0.500			69		150			37	03/02/06	03/03	GRB-218
R601179-10			J11219	1.9	0.500			63		150			37	03/02/06	03/03	GRB-219
R601179-11			J11235	1.9	0.500			59		150			37	03/02/06	03/03	GRB-220
R601179-12			J11236	2.0	0.500			60		150			37	03/02/06	03/03	GRB-201
R601179-13			Lab Control Sample	1.7	0.500			72		150				03/02/06	03/02	GRB-232
R601179-14			Method Blank	1.6	0.500			71		150				03/02/06	03/03	GRB-202
R601179-15			Duplicate (R601179-02)	1.9	0.500			59		150			38	03/02/06	03/03	GRB-203
Nominal values and limits from method				3.0	0.500					100			180			

PROCEDURES	REFERENCE	RAISO_SEP_GPC
	SPP-062	Sample Aliquoting, rev 0
	CP-702	Radium-228 in Water, rev 9

AVERAGES ± 2 SD FOR 15 SAMPLES
MDA 1.7 ± 0.96
YIELD 68 ± 12

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test SR Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

TOTAL STRONTIUM IN WATER

BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Total Strontium	
Preparation batch 7131-053						
R601179-01			7371-001	J111L6	U	
R601179-02			7371-002	J111N6	U	
R601179-03			7371-003	J111W2	U	
R601179-04			7371-004	J111X4	U	
R601179-05			7371-005	J111Y7	U	
R601179-06			7371-006	J111Y8	U	
R601179-07			7371-007	J11205	U	
R601179-08			7371-008	J11206	U	
R601179-09			7371-009	J11218	U	
R601179-10			7371-010	J11219	U	
R601179-11			7371-011	J11235	U	
R601179-12			7371-012	J11236	U	
R601179-13			7371-013	Lab Control Sample	ok	
R601179-14			7371-014	Method Blank	U	
R601179-17			7371-017	Duplicate (R601179-01)	-	U

Nominal values and limits from method RDLs (pCi/L) 2.0
100&300Area Component RCBRA Water Sa

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test SR Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

TOTAL STRONTIUM IN WATER

BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-053			2σ prep error 10.0 % Reference Lab Notebook 7131 pg. 53													
R601179-01			J111L6	0.56	0.500			80		100			37	03/02/06	03/02	GRB-222
R601179-02			J111N6	0.58	0.500			77		120			37	03/02/06	03/02	GRB-226
R601179-03			J111W2	0.79	0.500			77		100			36	03/02/06	03/02	GRB-231
R601179-04			J111X4	0.75	0.500			77		100			36	03/02/06	03/02	GRB-232
R601179-05			J111Y7	0.70	0.500			83		100			37	03/02/06	03/02	GRB-201
R601179-06			J111Y8	0.70	0.500			78		100			37	03/02/06	03/02	GRB-202
R601179-07			J11205	0.65	0.500			83		100			37	03/02/06	03/02	GRB-203
R601179-08			J11206	0.73	0.500			79		100			37	03/02/06	03/02	GRB-204
R601179-09			J11218	0.77	0.500			73		100			36	03/02/06	03/02	GRB-217
R601179-10			J11219	0.74	0.500			75		100			36	03/02/06	03/02	GRB-218
R601179-11			J11235	0.77	0.500			76		100			36	03/02/06	03/02	GRB-219
R601179-12			J11236	0.73	0.500			74		100			36	03/02/06	03/02	GRB-220
R601179-13			Lab Control Sample	0.60	0.500			76		100				03/02/06	03/02	GRB-224
R601179-14			Method Blank	0.59	0.500			76		120				03/02/06	03/02	GRB-229
R601179-17			Duplicate (R601179-01)	0.62	0.500			79		120			37	03/02/06	03/02	GRB-223
Nominal values and limits from method				2.0	0.500			35-105		100			180			

PROCEDURES	REFERENCE	SRTOT_SEP_PRECIP_GPC
	SPP-062	Sample Aliquoting, rev 0
	CP-380	Strontium in Water Samples, rev 2

AVERAGES ± 2 SD	MDA 0.69 ± 0.16
FOR 15 SAMPLES	YIELD 78 ± 6

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test GAM Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA EMITTERS

GAMMA SCAN

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Cobalt 60		Cesium 137	
Preparation batch 7131-053								
R601179-01			7371-001	J111L6	U		U	
R601179-02			7371-002	J111N6	U		U	
R601179-03			7371-003	J111W2	U		U	
R601179-04			7371-004	J111X4	U		U	
R601179-05			7371-005	J111Y7	U		U	
R601179-06			7371-006	J111Y8	U		U	
R601179-07			7371-007	J11205	U		U	
R601179-08			7371-008	J11206	U		U	
R601179-09			7371-009	J11218	U		U	
R601179-10			7371-010	J11219	U		U	
R601179-11			7371-011	J11235	U		U	
R601179-12			7371-012	J11236	U		U	
R601179-13			7371-013	Lab Control Sample	ok		ok	
R601179-14			7371-014	Method Blank	U		U	
R601179-15			7371-015	Duplicate (R601179-02)	-	U	-	U
Nominal values and limits from method 100&300Area Component RCBRA Water Sa				RDLs (pCi/L)	25		15	

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test GAM Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA EMITTERS

GAMMA SCAN

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-053			2σ prep error 15.0 % Reference Lab Notebook 7131 pg. 53													
R601179-01			J111L6	53	0.500					452			28	02/20/06	02/21	MB,08,00
R601179-02			J111N6	62	0.500					453			28	02/20/06	02/21	01,03,00
R601179-03			J111W2	56	0.500					453			27	02/20/06	02/21	01,04,00
R601179-04			J111X4	140	0.500					301			27	02/20/06	02/21	01,02,00
R601179-05			J111Y7	67	0.500					301			28	02/20/06	02/21	01,04,00
R601179-06			J111Y8	82	0.500					301			28	02/20/06	02/21	MB,05,00
R601179-07			J11205	68	0.500					301			28	02/20/06	02/21	MB,08,00
R601179-08			J11206	140	0.500					305			29	02/20/06	02/22	01,02,00
R601179-09			J11218	67	0.500					306			28	02/20/06	02/22	01,04,00
R601179-10			J11219	77	0.500					306			28	02/20/06	02/22	MB,05,00
R601179-11			J11235	89	0.500					245			28	02/20/06	02/22	01,03,00
R601179-12			J11236	64	0.500					306			28	02/20/06	02/22	MB,08,00
R601179-13			Lab Control Sample	48	0.500					188				02/20/06	02/24	01,03,00
R601179-14			Method Blank	62	0.500					316				02/20/06	02/22	01,04,00
R601179-15			Duplicate (R601179-02)	77	0.500					301			31	02/20/06	02/24	MB,05,00
Nominal values and limits from method				15	0.500					100			180			

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

AVERAGES ± 2 SD FOR 15 SAMPLES
MDA 77 ± 56
YIELD ____ ± ____

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test C Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

CARBON 14 IN WATER

LIQUID SCINTILLATION COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Carbon 14	
Preparation batch 7131-053						
R601179-09			7371-009	J11218	U	
R601179-10			7371-010	J11219	U	
R601179-11			7371-011	J11235	U	
R601179-12			7371-012	J11236	U	
R601179-13			7371-013	Lab Control Sample	ok	
R601179-14			7371-014	Method Blank	U	
R601179-18			7371-018	Duplicate (R601179-09)	-	U
R601179-19			7371-019	Spike (R601179-10)	ok	X

Nominal values and limits from method RDLs (pCi/L) 200
100&300Area Component RCBRA Water Sa

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-053			2σ prep error 10.0 %	Reference Lab Notebook 7131 pg. 53												
R601179-09			J11218	57	0.0300			100		50			38	03/04/06	03/04	LSC-004
R601179-10			J11219	59	0.0300			100		50			38	03/04/06	03/04	LSC-004
R601179-11			J11235	58	0.0300			100		50			38	03/04/06	03/04	LSC-004
R601179-12			J11236	57	0.0300			100		50			38	03/04/06	03/04	LSC-004
R601179-13			Lab Control Sample	130	0.0300			100		10				03/04/06	03/04	LSC-004
R601179-14			Method Blank	59	0.0300			100		50				03/04/06	03/04	LSC-004
R601179-18			Duplicate (R601179-09)	58	0.0300			100		50			38	03/04/06	03/04	LSC-004
R601179-19			Spike (R601179-10)	280	0.0200			100		5			38	03/04/06	03/04	LSC-004
Nominal values and limits from method				200	0.0300					50			180			

PROCEDURES REFERENCE C14_CHEM_LSC
CP-241 Carbon-14 in Aqueous Samples, rev 6

AVERAGES ± 2 SD MDA 95 ± 160
FOR 8 SAMPLES YIELD 100 ± 0

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test H Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Tritium	
Preparation batch 7131-053						
R601179-01			7371-001	J111L6	U	
R601179-02			7371-002	J111N6	269	
R601179-03			7371-003	J111W2	U	
R601179-04			7371-004	J111X4	U	
R601179-05			7371-005	J111Y7	U	
R601179-06			7371-006	J111Y8	U	
R601179-07			7371-007	J11205	U	
R601179-08			7371-008	J11206	U	
R601179-09			7371-009	J11218	782	
R601179-10			7371-010	J11219	U	
R601179-11			7371-011	J11235	U	
R601179-12			7371-012	J11236	U	
R601179-13			7371-013	Lab Control Sample	ok	
R601179-14			7371-014	Method Blank	U	
R601179-18			7371-018	Duplicate (R601179-09)	ok	
R601179-19			7371-019	Spike (R601179-10)	ok	X

Nominal values and limits from method RDLs (pCi/L) 400
100&300Area Component RCBRA Water Sa

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test H Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-053			2σ prep error 10.0 %	Reference Lab Notebook 7131 pg. 53												
R601179-01			J111L6	240	0.0100			100		75			40	03/04/06	03/05	LSC-007
R601179-02			J111N6	230	0.0100			100		75			40	03/04/06	03/05	LSC-007
R601179-03			J111W2	240	0.0100			100		75			39	03/04/06	03/05	LSC-007
R601179-04			J111X4	240	0.0100			100		75			39	03/04/06	03/05	LSC-007
R601179-05			J111Y7	240	0.0100			100		75			40	03/04/06	03/05	LSC-007
R601179-06			J111Y8	240	0.0100			100		75			40	03/04/06	03/05	LSC-007
R601179-07			J11205	240	0.0100			100		75			40	03/04/06	03/05	LSC-007
R601179-08			J11206	230	0.0100			100		75			40	03/04/06	03/05	LSC-007
R601179-09			J11218	240	0.0100			100		75			39	03/04/06	03/05	LSC-007
R601179-10			J11219	240	0.0100			100		75			39	03/04/06	03/05	LSC-007
R601179-11			J11235	240	0.0100			100		75			40	03/04/06	03/06	LSC-007
R601179-12			J11236	240	0.0100			100		75			40	03/04/06	03/06	LSC-007
R601179-13			Lab Control Sample	2300	0.0100			10		75				03/04/06	03/06	LSC-007
R601179-14			Method Blank	2300	0.0100			10		75				03/04/06	03/06	LSC-007
R601179-18			Duplicate (R601179-09)	240	0.0100			100		75			40	03/04/06	03/06	LSC-007
R601179-19			Spike (R601179-10)	360	0.0300			33		32			40	03/04/06	03/06	LSC-007
Nominal values and limits from method				400	0.0100					25			180			

PROCEDURES REFERENCE 906.0_H3_LSC
CP-210 Tritium in Water Samples by Distillation, rev 8

AVERAGES ± 2 SD FOR 16 SAMPLES
MDA 500 ± 1400
YIELD 85 ± 67

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test RA Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

RADIUM 226 IN WATER

RADON COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

RESULTS

LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	CLIENT SAMPLE ID	Radium 226	
Preparation batch 7131-053						
R601179-01			7371-001	J111L6	U	
R601179-02			7371-002	J111N6	U	
R601179-03			7371-003	J111W2	U	
R601179-04			7371-004	J111X4	U	
R601179-05			7371-005	J111Y7	U	
R601179-06			7371-006	J111Y8	U	
R601179-07			7371-007	J11205	U	
R601179-08			7371-008	J11206	U	
R601179-09			7371-009	J11218	U	
R601179-10			7371-010	J11219	U	
R601179-11			7371-011	J11235	U	
R601179-12			7371-012	J11236	U	
R601179-13			7371-013	Lab Control Sample	ok	
R601179-14			7371-014	Method Blank	U	
R601179-15			7371-015	Duplicate (R601179-02)	-	U

Nominal values and limits from method RDLs (pCi/L) 2.0
100&300Area Component RCBRA Water Sa

Lab id EBRLNE
Protocol Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

Test RA Matrix WATER
SDG 7371
Contact Melissa C. Mannion

LAB METHOD SUMMARY

RADIUM 226 IN WATER

RADON COUNTING

Client Hanford
Contract No. 630
Contract SDG K0192

METHOD PERFORMANCE

LAB SAMPLE ID	RAW TEST	SUF-FIX	CLIENT SAMPLE ID	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7131-053			2σ prep error 5.0 %	Reference Lab Notebook 7131 pg. 53												
R601179-01			J111L6	0.70	0.100			100		80			41	03/06/06	03/06	RN-012
R601179-02			J111N6	0.65	0.100			100		80			41	03/06/06	03/06	RN-013
R601179-03			J111W2	0.57	0.100			100		80			40	03/06/06	03/06	RN-014
R601179-04			J111X4	0.50	0.100			100		80			40	03/06/06	03/06	RN-015
R601179-05			J111Y7	0.57	0.100			100		80			41	03/06/06	03/06	RN-016
R601179-06			J111Y8	0.50	0.100			100		85			41	03/06/06	03/06	RN-011
R601179-07			J11205	0.60	0.100			100		85			41	03/06/06	03/06	RN-012
R601179-08			J11206	0.69	0.100			100		85			41	03/06/06	03/06	RN-014
R601179-09			J11218	0.52	0.100			100		85			40	03/06/06	03/06	RN-015
R601179-10			J11219	0.54	0.100			100		85			40	03/06/06	03/06	RN-016
R601179-11			J11235	0.70	0.100			100		105			41	03/06/06	03/07	RN-009
R601179-12			J11236	0.58	0.100			100		70			41	03/06/06	03/07	RN-011
R601179-13			Lab Control Sample	0.64	0.100			100		70				03/06/06	03/07	RN-012
R601179-14			Method Blank	0.59	0.100			100		70				03/06/06	03/07	RN-013
R601179-15			Duplicate (R601179-02)	0.78	0.100			100		75			42	03/06/06	03/07	RN-016
Nominal values and limits from method				2.0	0.100			20-105		100			180			

PROCEDURES REFERENCE 903.1_RA226_LUC
SPP-062 Sample Aliquoting, rev 0
CP-881 Radium-226 in Water and Dissolved Samples, rev 1

AVERAGES ± 2 SD MDA 0.61 ± 0.17
FOR 15 SAMPLES YIELD 100 ± 0

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 03/13/06

SDG 7371
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K0192

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
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0192

SDG	7371
Contact	Melissa C. Mannion

REPORT GUIDE

Client	Hanford
Contract	No. 630
Case no	SDG_K0192

PREPARATION BATCH SUMMARY

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

The following notes apply to this report:

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

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

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

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

  These qualifiers should be reviewed as follows:

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

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

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

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

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Form	DVD-RG
Version	3.06
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SDG 7371
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_K0192

WORK SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

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DATA SHEET

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

The following notes apply to this report:

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

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

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

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

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

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

The following qualifiers are defined by the DVD system:

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

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DATA SHEET

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

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

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

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GUIDE, cont.

Client Hanford
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Case no SDG K0192

DATA SHEET

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

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

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

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LAB CONTROL SAMPLE

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

The following notes apply to this report:

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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

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DUPLICATE

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

The following notes apply to this report:

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

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

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

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

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

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

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

  This value reported for this limit is at most 999.

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

  1. A fixed percentage specified in the protocol.

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DUPLICATE

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

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

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

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

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

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MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

* The first, computed limits for the recovery reflect:

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

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

  2. The error of ADDED.

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

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

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GUIDE, cont.

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MATRIX SPIKE

for the recovery.

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

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

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METHOD SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

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

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

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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-048-158	Page 1 of 2

Collector: TILLER, B Clare + /HELGESON	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 7N	Data Turnaround: 45 Days
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-10, PORE WATER K0194 (7371)		SAF No.: RC-048	Air Quality ☐	
Ice Chest No.: ERC-02-506	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX		
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060234		Bill of Lading/Air Bill No.: SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
J111L6	WATER	1-24-06	1000	X	X	X	X	X	X				

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B. HELGESON By Hel	1-24-06 1100	EAS LOCKED STORAGE	1-24-06 1100
EAS LOCKED STORAGE B. Tiller	01-25-06 0200	RZ Steffler RZ Steffler	0700 1-25-06
RZ Steffler RZ Steffler	1500 WH 1-25-06	Fed Ex	
FED EX		Rex Kelly	1/27/06 10:00

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-175	Page 1 of 2

Collector TILLER, B Curet	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 7N **Data Turnaround** 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	**Sampling Location** U-10, SURFACE WATER K0194 (7371)	**SAF No.** RC-048	**Air Quality** ☐
Ice Chest No. ERC-02-506	**Field Logbook No.** EL-1597 **COA** BESRAS6520	**Method of Shipment** FED EX	
Shipped To EBERLINE SERVICES/ LIONVILLE	**Offsite Property No.** A060234	**Bill of Lading/Air Bill No.** SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No. / **Matrix *** / **Sample Date** / **Sample Time**										
J111N6 / WATER / 1-24-06 / 0900	X	X	X	X	X	X				

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Rob Curet	1100 1-24-06	Received By/Stored In: Rob Curet EAS Locked Storage	1100 1-24-06
Relinquished By/Removed From: EAS Locked Storage R.J. Stoffler	01-25-06 0700	Received By/Stored In: R2 Stoffler R.J. Stoffler	0700 1-25-06
Relinquished By/Removed From: R2 Stoffler R.J. Stoffler	1500 1-25-06	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: FED EX		Received By/Stored In: Alex Kelsel	1/27/06 10:02
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-195	Page 1 of 2

Collector TILLER, B JAMES BERNHARD	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH
Price Code 7N	Data Turnaround 45 Days	Air Quality ☐	
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location REF-11, PORE WATER K0194 (7371)	SAF No. RC-048	
Ice Chest No. AFS-04-054	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX
Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A060236	Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RZS 1-26-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No. / Matrix * / Sample Date / Sample Time										
J111W2 / WATER / 1-25-06 / 1030	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	JAMES BERNHARD	1-25-06 1630	EAS LOCKED STORAGE	1-25-06 1630
Relinquished By/Removed From	EAS LOCKED STORAGE	01-26-06 / 0715	RZ Stoffler	1-26-06 0715
Relinquished By/Removed From	RZ Stoffler	1-26-06 1500	Fed Ex	
Relinquished By/Removed From	FED EX		Alex Kelenhel	1/27/06 10:00
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-207	Page 1 of 2

Collector: TILLER, B JAMES BERNHARD	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: REF-11 SURFACE WATER K0194 (7371)	SAF No.: RC-048	
Ice Chest No.: AFS-04-054	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060236	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RZS 1-26-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	125mL	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081

Sample No.	Matrix *	Sample Date	Sample Time										
J111X4	WATER	1-25-06	1130	X	X	X	X	X	X				

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: JAMES BERNHARD	1-25-06 1630	EAS LOCKED STORAGE	1-25-06 1630
Relinquished By/Removed From: EAS LOCKED STORAGE	0715 01-26-06	Received By/Stored In: RZ Stiffler	0715 1-26-06
Relinquished By/Removed From: RZ Stiffler	1500 WCH 1-26-06	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: FED EX		Received By/Stored In: Alex Lehmel	1/27/06 10:00
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-216	Page 1 of 2

Collector: TILLER, B Curet	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: REF-14, PORE WATER K0194 (7371)	SAF No.: RC-048	
Ice Chest No.: AFS-04-042	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060235	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RJS 1-25-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	P	P	P	P	P	P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No. / Matrix * / Sample Date / Sample Time										
J111Y7 / WATER / 1-24-06 / 1630	X	X	X	X	X	X				

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From: Bob Curet	1-24-06 1830	Received By/Stored In: EAS LOCKED STORAGE	1-24-06 1830
Relinquished By/Removed From: EAS LOCKED STORAGE	01-25-06 0700	Received By/Stored In: RZ Stoffler	1-25-06 0700
Relinquished By/Removed From: RZ Stoffler	1-25-06 1500	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: FED EX		Received By/Stored In:	1/27/06 10:00
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-217	Page 1 of 2

Collector TILLER, B Curet	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 7N **Data Turnaround** 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	**Sampling Location** REF-16, PORE WATER K0194 (7371)	**SAF No.** RC-048	**Air Quality** ☐
Ice Chest No. ERC-02-506	**Field Logbook No.** EL-1597 **COA** BESRAS6520	**Method of Shipment** FED EX	
Shipped To EBERLINE SERVICES LIONVILLE	**Offsite Property No.** A060234	**Bill of Lading/Air Bill No.** SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RZS 1-25-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	P	P	P	P	P	P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081

Sample No.	Matrix *	Sample Date	Sample Time										
J111Y8	WATER	1-24-06	1445	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Rob Curet	1-24-06 1830	Received By/Stored In EAS LOCKED STORAGE	1-24-06 1830
Relinquished By/Removed From EAS LOCKED STORAGE	B Tiller	01-25-06 0700	Received By/Stored In RZ Steffler	1-25-06 0700
Relinquished By/Removed From RZ Steffler	R.Z. Steffler	1500 WH 1-25-06	Received By/Stored In Fed EX	
Relinquished By/Removed From FED EX			Received By/Stored In Alex Kennedy	1/27/06 10:00
Relinquished By/Removed From			Received By/Stored In	
Relinquished By/Removed From			Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-224	Page 1 of 2

Collector TILLER, B Cuet	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7N Data Turnaround 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location REF-14, SURFACE WATER K0194 (7371)		SAF No. RC-048	Air Quality ☐
Ice Chest No. AFS-04-042	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX	
Shipped To EBERLINE SERVICES / LIONVILLE	Offsite Property No. A060235		Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ R25 1-25-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	P	P	P	P	P	P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
J11205	WATER	1-24-06	1600	X	X	X	X	X	X				

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Rob Cuet	1-24-06 1830	EAS LOCKED STORAGE	1-24-06 1830
EAS LOCKED STORAGE	01-25-06/0700	RZ Stiffler	1-25-06 0700
RZ Stiffler	1-25-06 1500	Fed Ex	
FED EX		Alex Kellum	1/27/06 10:00

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-225	Page 1 of 2

Collector: TILLER, B Curet	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: REF-16, SURFACE WATER K0194 (7371)		SAF No.: RC-048
Ice Chest No.: ERC-02-506	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060234		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RZS 1-25-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	P	P	P	P	P	P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
Sample No. / Matrix * / Sample Date / Sample Time										
J11206 / WATER / 1-24-06 / 1400	X	X	X	X	X	X				

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Rob Curet	1-24-06 1830	Received By/Stored In: Rob Curet EAS LOCKED STORAGE	1-24-06 1830
Relinquished By/Removed From: EAS LOCKED STORAGE R Curet	01-25-06/0700	Received By/Stored In: RZ Steffler RZ Steffler	0700 1-25-06
Relinquished By/Removed From: RZ Steffler RZ Steffler	1500 1-25-06	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: FED EX		Received By/Stored In: Alex Kennedy	1/27/06 10:00
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-232	Page 1 of 2

Collector: TILLER, B — JAMES BERNHARD	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 7N	Data Turnaround: 45 Days
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: Cr 1, PORE WATER K0194 (7371)		SAF No.: RC-048	Air Quality ☐	
Ice Chest No.: AFS-04-054	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX		
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060236		Bill of Lading/Air Bill No.: SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RZS 1-26-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	125mL	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3 CARBON-14	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium-226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081

Sample No.	Matrix *	Sample Date	Sample Time										
J11218	WATER	1-25-06	1300	X	X	X	X	X	X				

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: JAMES BERNHARD	1-25-06 1630	Received By/Stored In: EAS LOCKED STORAGE	1-25-06 1630
Relinquished By/Removed From: EAS LOCKED STORAGE	01-26-06/0715	Received By/Stored In: RZ Steffler	1-26-06 0715
Relinquished By/Removed From: RZ Steffler	1-26-06 1500	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: FED EX		Received By/Stored In: Alex Kennedy	1/27/06 10:00
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-233	Page 1 of 2

Collector: TILLER, B JAMES BERNHARD	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: Cr 2, PORE WATER K0194 (7371)	SAF No.: RC-048	
Ice Chest No.: AFS-04-054	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES OLIONVILLE	Offsite Property No.: A060236	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RZS 1-26-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	~~125mL~~ ~~150~~ JEB 1-25-06	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3 CARBON-14	See item (1) in Special Instructions.	Strontium-89,90 – Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081

Sample No.	Matrix *	Sample Date	Sample Time										
J11219	WATER	1-25-06	1400	X	X	X	X	X	X				

CHAIN OF POSSESSION	Sign/Print Names	Received By/Stored In	Date/Time
Relinquished By/Removed From	JAMES BERNHARD 1-26-06 1630	EAS LOCKED STORAGE	1-25-06 1630
Relinquished By/Removed From	EAS LOCKED STORAGE 01-26-06/0715	RZ Stoffler	0715 1-26-06
Relinquished By/Removed From	RZ Stoffler 1500 1-26-06	Fed Ex	
Relinquished By/Removed From	FED EX	Alex Lewel	1/27/06 10:00
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-248	Page 1 of 2

Collector: TILLER, B JAMES BERNHARD	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: Cr 1, SURFACE WATER K0194 (7371)	SAF No.: RC-048	
Ice Chest No.: AFS-04-054	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES, LIONVILLE	Offsite Property No.: A060236	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RZS 1-26-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	~~125~~ 60 mL 1-25-06	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3 (CARTON) - 14	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081

Sample No.	Matrix *	Sample Date	Sample Time										
J11235	WATER	1-25-06	1230	X	X	X	X	X	X				

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JAMES BERNHARD	1-25-06 1630	EAS LOCKED STORAGE JAMES BERNHARD	1-25-06 1630
EAS LOCKED STORAGE	1-26-06 0715	RZ Stoffler	1-26-06 0715
RZ Stoffler	1-26-06 1500	Fed Ex	
FED EX		Alex Lebrecht	1/27/06 10:00

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-249	Page 1 of 2

Collector: TILLER, B — JAMES BERNHARD	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: Cr 2, SURFACE WATER K0194 (7371)	SAF No.: RC-048	
Ice Chest No.: AFS-04-040	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / LIONVILLE	Offsite Property No.: A060237	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

~~COOL 4C~~ RZS 1-26-06

None

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	~~125~~mL EO JEB 1-25-06	500mL	1000mL	500mL	1000mL	500mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3 CARBON-14	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081

Sample No.	Matrix *	Sample Date	Sample Time										
J11236	WATER	1-25-06	1345	X	X	X	X	X	X				

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
JAMES BERNHARD	1-25-06 1630	EAS LOCKED STORAGE	1-25-06 1630
EAS LOCKED STORAGE	01-26-06/0715	RZ Steffler	0715 1-26-06
RZ Steffler	1500 WEH 1-26-06	FED EX	
FED EX		Alex Kelley	1/27/06 10:00

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

EBERLINE SERVICES

RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: W.C. HANFORD City RICHLAND State CA

Date/Time received 1/27/06 10:00 CoC No. RC-048-158,175,195,207,216,217,224,225,232,233,248,249 AFS-04-040, AFS-04-054, AFS-04-042

Container I.D. No. ERC-02-506, Requested TAT (Days) 45 P.O. Received Yes [ ] No [ ]

INSPECTION

1. Custody seals on shipping container intact? Yes [✓] No [ ] N/A [ ]
2. Custody seals on shipping container dated & signed? Yes [✓] No [ ] N/A [ ]
3. Custody seals on sample containers intact? Yes [✓] No [ ] N/A [ ]
4. Custody seals on sample containers dated & signed? Yes [✓] No [ ] N/A [ ]
5. Packing material is: Wet [ ] Dry [✓]
6. Number of samples in shipping container: 12 Sample Matrix WATER
7. Number of containers per sample: 6 (Or see CoC _____)
8. Samples are in correct container Yes [✓] No [ ]
9. Paperwork agrees with samples? Yes [✓] No [ ]
10. Samples have: Tape [ ] Hazard labels [ ] Rad labels [ ] Appropriate sample labels [✓]
11. Samples are: In good condition [✓] Leaking [ ] Broken Container [ ] Missing [ ]
12. Samples are: Preserved [✓] Not preserved [ ] pH 2 Preservative HNO_3
13. Describe any anomalies:
14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date _____
15. Inspected by AK Date: 1/27/06 Time: 10:00

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

Ion Chamber Ser. No. _____ Calibration date _____

Alpha Meter Ser. No. _____ Calibration date _____

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

LIONVILLE LABORATORY INC.

27 February 2006

RECEIVED MAR 2006

Joan Kessner
WC-Hanford
3190 Washington Way
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 #	0601L132, 0601L136, 0601L145, 0601L154
SDG #	K0192
SAF #	RC-048
Date Received	1-24,25,26,27-06
# Samples	26
Mat\rix	Water
Volatiles	
Semivolatiles	X
Pest/PCB	X
PAH	
DRO/KRO/GRO	X
GC Alcohols	
Herbicides	
Metals	X
Inorganics	X

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

Sincerely,
Lionville Laboratory Incorporated

Orlette S. Johnson
Project Manager
r:\group\pm\orlette\tnu-hanford\data\b_ltrs.doc

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

RECEIVED
MAR 2006

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RCS-048 K0192

DATE RECEIVED: 01/24/06 LVL LOT # :0601L13
DATE RECEIVED: 01/24/06 LVL LOT # :0601L132

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J111K8	001	W	06LE0064	01/19/06	01/25/06	01/27/06
J111K8	001 MS	W	06LE0064	01/19/06	01/25/06	01/27/06
J111K8	001 MSD	W	06LE0064	01/19/06	01/25/06	01/27/06
J111N2	002	W	06LE0064	01/19/06	01/25/06	01/27/06
J111L2	003	W	06LE0064	01/19/06	01/25/06	01/27/06
J111N3	004	W	06LE0064	01/19/06	01/25/06	01/27/06
J111L3	005	W	06LE0064	01/19/06	01/25/06	01/27/06
J111N4	006	W	06LE0064	01/22/06	01/25/06	01/27/06
J111L4	007	W	06LE0064	01/22/06	01/25/06	01/27/06
J111N5	008	W	06LE0064	01/22/06	01/25/06	01/27/06
J111L5	009	W	06LE0064	01/22/06	01/25/06	01/27/06

LAB QC:

PBLKAN	MB1	W	06LE0064	N/A	01/25/06	01/27/06
PBLKAN	MB1 BS	W	06LE0064	N/A	01/25/06	01/27/06

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RCS-048 K0192

DATE RECEIVED: 01/25/06 LVL LOT # :0601L136

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J111K4	001	W	06LE0064	01/19/06	01/25/06	01/27/06
J111X6	002	W	06LE0064	01/23/06	01/25/06	01/27/06
J111X0	003	W	06LE0064	01/23/06	01/25/06	01/27/06
J111X5	004	W	06LE0064	01/23/06	01/25/06	01/28/06
J111W3	005	W	06LE0064	01/23/06	01/25/06	01/28/06

LAB QC:

PBLKAN	MB1	W	06LE0064	N/A	01/25/06	01/27/06
PBLKAN	MB1 BS	W	06LE0064	N/A	01/25/06	01/27/06

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RCS-048 K0192

DATE RECEIVED: 01/26/06 LVL LOT # :0601L145

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J111L6	001	W	06LE0069	01/24/06	01/27/06	02/01/06
J11205	002	W	06LE0069	01/24/06	01/27/06	02/01/06
LAB QC:						
PBLKAP	MB1	W	06LE0069	N/A	01/27/06	01/31/06
PBLKAP	MB1 BS	W	06LE0069	N/A	01/27/06	02/01/06
PBLKAP	MB1 BSD	W	06LE0069	N/A	01/27/06	02/01/06

2/6/6

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNUHANFORD RCS-048 K0192

DATE RECEIVED: 01/27/06 LVL LOT # :0601L154

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J111N6	001	W	06LE0069	01/24/06	01/27/06	02/01/06
J11206	002	W	06LE0069	01/24/06	01/27/06	02/01/06
J111Y8	003	W	06LE0069	01/24/06	01/27/06	02/01/06
J111Y7	004	W	06LE0069	01/24/06	01/27/06	02/01/06
J111W2	005	W	06LE0069	01/25/06	01/27/06	02/01/06
J111X4	006	W	06LE0069	01/25/06	01/27/06	02/01/06
J11235	007	W	06LE0069	01/25/06	01/27/06	02/01/06
J11218	008	W	06LE0069	01/25/06	01/27/06	02/01/06
J11236	009	W	06LE0069	01/25/06	01/27/06	02/01/06
J11219	010	W	06LE0069	01/25/06	01/27/06	02/01/06
LAB QC:						
PBLKAP	MB1	W	06LE0069	N/A	01/27/06	01/31/06
PBLKAP	MB1 BS	W	06LE0069	N/A	01/27/06	02/01/06
PBLKAP	MB1 BSD	W	06LE0069	N/A	01/27/06	02/01/06

1616

LIONVILLE LABORATORY INC.

Case Narrative

Client: TNU-HANFORD RCS-048
LVL #: 0601L132, 0601L136, 0601L145,0601L154
SDG/SAF # K0192/RCS-048

W.O. #: 11343-606-001-9999-00
Date Received: 01-24,25,26-2006

CHLORINATED PESTICIDES

Nine (9) water samples were collected on 01-19,22-2006, for batch 0601L132.
Five (5) water samples were collected on 01-19,23-2006, for batch 0601L136.
Two (2) water samples were collected on 01-24-2006, for batch 0601L145.
Ten (10) water samples were collected on 01-24,25-2006, for batch 0601L154.

The samples and their associated QC samples were extracted on 01-25,27-2006 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures on 01-27,28,31-2006, 02-01-2006. The extraction procedure was based on method 3520C and the extracts were analyzed based on method 8081A.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
2. The sample was extracted and analyzed within required holding time.
3. The samples and their associated QC samples received a Copper-Sulfur cleanup according to Lionville Laboratory SOPs based on SW846 method 3660A.
4. The method blanks were below the reporting limits for all target compounds.
5. All obtainable surrogate recoveries were within acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. Matrix spike recoveries were within acceptance criteria.
8. The initial calibrations associated with this data set were within acceptance criteria.
9. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
10. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
11. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

2/7/6
Date

rt\r:\group\data\pest\tnu hanford\0601-132_136_145_154.pst

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 93 pages.

GLOSSARY OF DATA

DATA QUALIFIERS

U	=	Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
J	=	Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
B	=	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
I	=	Interference.
.I	=	Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
NS	=	Not Spiked.
SP	=	Indicates Spiked Compound.
P	=	This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
D	=	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
C	=	This flag applies to a compound that has been confirmed by GC/MS.
NPM	=	No pattern match for multi-component target analytes.

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 02/01/06 13:45

RFW Batch Number: 0601L132 Client: TNUHANFORD RCS-048 K0192 Work Order: 11343606001 Page: 1

	Cust ID:	J111K8		J111K8		J111K8		J111N2		J111L2		J111N3	
Sample Information	RFW#:	001		001 MS		001 MSD		002		003		004	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
Surrogate:	Tetrachloro-m-xylene	52	%	58	%	58	%	56	%	49	%	53	%
	Decachlorobiphenyl	56	%	59	%	60	%	55	%	38	%	54	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		0.052	U	96	%	100	%	0.051	U	0.050	U	0.051	U
gamma-BHC (Lindane)		0.052	U	95	%	98	%	0.051	U	0.050	U	0.051	U
Beta-BHC		0.052	U	87	%	89	%	0.051	U	0.050	U	0.051	U
Heptachlor		0.052	U	84	%	90	%	0.051	U	0.050	U	0.051	U
Delta-BHC		0.052	U	95	%	97	%	0.051	U	0.050	U	0.051	U
Aldrin		0.052	U	90	%	95	%	0.051	U	0.050	U	0.051	U
Heptachlor epoxide		0.052	U	93	%	95	%	0.051	U	0.050	U	0.051	U
gamma-Chlordane		0.052	U	91	%	94	%	0.051	U	0.050	U	0.051	U
Endosulfan I		0.052	U	91	%	94	%	0.051	U	0.050	U	0.051	U
alpha-Chlordane		0.052	U	90	%	92	%	0.051	U	0.050	U	0.051	U
4,4'-DDE		0.052	U	100	%	102	%	0.051	U	0.050	U	0.051	U
Dieldrin		0.052	U	106	%	109	%	0.051	U	0.050	U	0.051	U
Endrin		0.052	U	82	%	101	%	0.051	U	0.050	U	0.051	U
4,4'-DDD		0.052	U	109	%	110	%	0.051	U	0.050	U	0.051	U
Endosulfan II		0.052	U	98	%	100	%	0.051	U	0.050	U	0.051	U
4,4'-DDT		0.052	U	103	%	105	%	0.051	U	0.050	U	0.051	U
Endrin aldehyde		0.052	U	79	%	81	%	0.051	U	0.050	U	0.051	U
Endosulfan sulfate		0.052	U	99	%	101	%	0.051	U	0.050	U	0.051	U
Methoxychlor		0.052	U	95	%	99	%	0.051	U	0.050	U	0.051	U
Endrin ketone		0.052	U	107	%	103	%	0.051	U	0.050	U	0.051	U
Toxaphene		0.52	U	0.51	U	0.50	U	0.51	U	0.50	U	0.51	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

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Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 02/01/06 13:45

RFW Batch Number: 0601L132 Client: TNUHANFORD RCS-048 K0192 Work Order: 11343606001 Page: 2

	Cust ID:	J111L3		J111N4		J111L4		J111N5		J111L5		PBLKAN	
Sample Information	RFW#:	005		006		007		008		009		06LE0064-MB1	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
Surrogate:	Tetrachloro-m-xylene	54	%	54	%	48	%	48	%	49	%	44	%
	Decachlorobiphenyl	54	%	53	%	49	%	45	%	48	%	48	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
gamma-BHC (Lindane)		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Beta-BHC		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Heptachlor		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Delta-BHC		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Aldrin		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Heptachlor epoxide		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
gamma-Chlordane		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Endosulfan I		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
alpha-Chlordane		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
4,4'-DDE		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Dieldrin		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Endrin		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
4,4'-DDD		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Endosulfan II		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
4,4'-DDT		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Endrin aldehyde		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Endosulfan sulfate		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Methoxychlor		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Endrin ketone		0.052	U	0.050	U	0.050	U	0.050	U	0.052	U	0.050	U
Toxaphene		0.52	U	0.50	U	0.50	U	0.50	U	0.52	U	0.50	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

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Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 02/01/06 13:45

RFW Batch Number: 0601L132 Client: TNUHANFORD RCS-048 K0192 Work Order: 11343606001 Page: 3

Cust ID: **PBLKAN BS**

Sample Information	RFW#:	**06LK0064-MB1**
	Matrix:	WATER
	D.F.:	1.00
	Units:	UG/L

Surrogate:	Tetrachloro-m-xylene	43	%
	Decachlorobiphenyl	46	%

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Alpha-BHC	91	%
gamma-BHC (Lindane)	89	%
Beta-BHC	84	%
Heptachlor	77	%
Delta-BHC	88	%
Aldrin	82	%
Heptachlor epoxide	86	%
gamma-Chlordane	84	%
Endosulfan I	85	%
alpha-Chlordane	83	%
4,4'-DDE	92	%
Dieldrin	97	%
Endrin	82	%
4,4'-DDD	100	%
Endosulfan II	93	%
4,4'-DDT	94	%
Endrin aldehyde	73	%
Endosulfan sulfate	90	%
Methoxychlor	88	%
Endrin ketone	94	%
Toxaphene	0.50	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

2/1/06

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 02/01/06 13:59

RFW Batch Number: 0601L136 Client: TNUHANFORD RCS-048 K0192 Work Order: 11343606001 Page: 1

	Cust ID:	J111K4	J111X6	J111X0	J111X5	J111W3	PBLKAN
Sample Information	RFW#:	001	002	003	004	005	06LE0064-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate: Tetrachloro-m-xylene		56 %	53 %	47 %	56 %	51 %	44 %
Decachlorobiphenyl		65 %	62 %	58 %	64 %	57 %	48 %
		fl	fl	fl	fl	fl	fl
Alpha-BHC		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
gamma-BHC (Lindane)		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Beta-BHC		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Heptachlor		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Delta-BHC		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Aldrin		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Heptachlor epoxide		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
gamma-Chlordane		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Endosulfan I		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
alpha-Chlordane		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
4,4'-DDE		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Dieldrin		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Endrin		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
4,4'-DDD		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Endosulfan II		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
4,4'-DDT		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Endrin aldehyde		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Endosulfan sulfate		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Methoxychlor		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Endrin ketone		0.050 U	0.051 U	0.052 U	0.051 U	0.050 U	0.050 U
Toxaphene		0.50 U	0.51 U	0.52 U	0.51 U	0.50 U	0.50 U

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

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 02/01/06 13:59

RFW Batch Number: 0601L136 Client: TNUHANFORD RCS-048 K0192 Work Order: 11343606001 Page: 2

Cust ID: **PBLKAN BS**

Sample Information

RFW#: **06LE0064-MB1**
Matrix: WATER
D.F.: 1.00
Units: UG/L

Surrogate:	Tetrachloro-m-xylene	43	%
	Decachlorobiphenyl	46	%

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Alpha-BHC	91	%
gamma-BHC (Lindane)	89	%
Beta-BHC	84	%
Heptachlor	77	%
Delta-BHC	88	%
Aldrin	82	%
Heptachlor epoxide	86	%
gamma-Chlordane	84	%
Endosulfan I	85	%
alpha-Chlordane	83	%
4,4'-DDE	92	%
Dieldrin	97	%
Endrin	82	%
4,4'-DDD	100	%
Endosulfan II	93	%
4,4'-DDT	94	%
Endrin aldehyde	73	%
Endosulfan sulfate	90	%
Methoxychlor	88	%
Endrin ketone	94	%
Toxaphene	0.50	U

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

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 02/03/06 10:12

RFW Batch Number: 0601L145 Client: TNUHANFORD RCS-048 K0192 Work Order: 11343606001 Page: 1

	Cust ID:	J111L6	J11205	PBLKAP	PBLKAP BS	PBLKAP BSD
Sample Information	RFW#:	001	002	06LE0069-MB1	06LE0069-MB1	06LE0069-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L

Surrogate:	Tetrachloro-m-xylene	67	%	61	%	56	%	54	%	55	%	
	Decachlorobiphenyl	71	%	65	%	58	%	60	%	64	%	
			fl		fl		fl		fl		fl	fl
Alpha-BHC		0.050	U	0.050	U	0.050	U	95	%	96	%	
gamma-BHC (Lindane)		0.050	U	0.050	U	0.050	U	94	%	95	%	
Beta-BHC		0.050	U	0.050	U	0.050	U	81	%	86	%	
Heptachlor		0.050	U	0.050	U	0.050	U	84	%	88	%	
Delta-BHC		0.050	U	0.050	U	0.050	U	93	%	94	%	
Aldrin		0.050	U	0.050	U	0.050	U	86	%	89	%	
Heptachlor epoxide		0.050	U	0.050	U	0.050	U	90	%	92	%	
gamma-Chlordane		0.050	U	0.050	U	0.050	U	89	%	91	%	
Endosulfan I		0.050	U	0.050	U	0.050	U	90	%	92	%	
alpha-Chlordane		0.050	U	0.050	U	0.050	U	88	%	91	%	
4,4'-DDE		0.050	U	0.050	U	0.050	U	96	%	98	%	
Dieldrin		0.050	U	0.050	U	0.050	U	95	%	97	%	
Endrin		0.050	U	0.050	U	0.050	U	102	%	104	%	
4,4'-DDD		0.050	U	0.050	U	0.050	U	99	%	100	%	
Endosulfan II		0.050	U	0.050	U	0.050	U	93	%	94	%	
4,4'-DDT		0.050	U	0.050	U	0.050	U	96	%	100	%	
Endrin aldehyde		0.050	U	0.050	U	0.050	U	85	%	89	%	
Endosulfan sulfate		0.050	U	0.050	U	0.050	U	93	%	94	%	
Methoxychlor		0.050	U	0.050	U	0.050	U	93	%	94	%	
Endrin ketone		0.050	U	0.050	U	0.050	U	94	%	95	%	
Toxaphene		0.50	U	0.50	U	0.50	U	0.50	U	0.50	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

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Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 02/06/06 14:46

RFW Batch Number: 0601L154 Client: TNUHANFORD RCS-048 K0192 Work Order: 11343606001 Page: 1

	Cust ID:	J111N6		J11206		J111Y8		J111Y7		J111W2		J111X4	
Sample Information	RFW#:	001		002		003		004		005		006	
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	D.F.:	1.00		1.00		1.00		1.00		1.00		1.00	
	Units:	UG/L		UG/L		UG/L		UG/L		UG/L		UG/L	
Surrogate:	Tetrachloro-m-xylene	55	%	57	%	59	%	51	%	54	%	55	%
	Decachlorobiphenyl	64	%	58	%	61	%	67	%	60	%	65	%
			fl		fl		fl		fl		fl		fl
Alpha-BHC		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
gamma-BHC (Lindane)		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Beta-BHC		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Heptachlor		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Delta-BHC		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Aldrin		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Heptachlor epoxide		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
gamma-Chlordane		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Endosulfan I		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
alpha-Chlordane		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
4,4'-DDE		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Dieldrin		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Endrin		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
4,4'-DDD		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Endosulfan II		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
4,4'-DDT		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Endrin aldehyde		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Endosulfan sulfate		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Methoxychlor		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Endrin ketone		0.051	U	0.050	U	0.050	U	0.051	U	0.050	U	0.051	U
Toxaphene		0.51	U	0.50	U	0.50	U	0.51	U	0.50	U	0.51	U

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

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 02/06/06 14:46

RFW Batch Number: 0601L154 Client: TNUHANFORD RCS-048 K0192 Work Order: 11343606001 Page: 2

	Cust ID:	J11235	J11218	J11236	J11219	PBLKAP	PBLKAP BS
Sample Information	RFW#:	007	008	009	010	06LE0069-MB1	06LE0069-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate:	Tetrachloro-m-xylene	62 %	62 %	62 %	63 %	56 %	54 %
	Decachlorobiphenyl	69 %	59 %	65 %	67 %	58 %	60 %
		fl	fl	fl	fl	fl	fl
Alpha-BHC		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	95 %
gamma-BHC (Lindane)		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	94 %
Beta-BHC		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	81 %
Heptachlor		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	84 %
Delta-BHC		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	93 %
Aldrin		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	86 %
Heptachlor epoxide		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	90 %
gamma-Chlordane		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	89 %
Endosulfan I		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	90 %
alpha-Chlordane		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	88 %
4,4'-DDE		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	96 %
Dieldrin		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	95 %
Endrin		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	102 %
4,4'-DDD		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	99 %
Endosulfan II		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	93 %
4,4'-DDT		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	96 %
Endrin aldehyde		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	85 %
Endosulfan sulfate		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	93 %
Methoxychlor		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	93 %
Endrin ketone		0.050 U	0.050 U	0.050 U	0.051 U	0.050 U	94 %
Toxaphene		0.50 U	0.50 U	0.50 U	0.51 U	0.50 U	0.50 U

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

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 02/06/06 14:46

RFW Batch Number: **0601L154** Client: **TNUHANFORD RCS-048 K0192** Work Order: 11343606001 Page: 3

Cust ID: **PBLKAP BSD**

Sample Information

RFW#: **06LE0069-MB1**
Matrix: WATER
D.F.: 1.00
Units: UG/L

Surrogate:	Tetrachloro-m-xylene	55	%
	Decachlorobiphenyl	64	%

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

Alpha-BHC	96	%
gamma-BHC (Lindane)	95	%
Beta-BHC	86	%
Heptachlor	88	%
Delta-BHC	94	%
Aldrin	89	%
Heptachlor epoxide	92	%
gamma-Chlordane	91	%
Endosulfan I	92	%
alpha-Chlordane	91	%
4,4'-DDE	98	%
Dieldrin	97	%
Endrin	104	%
4,4'-DDD	100	%
Endosulfan II	94	%
4,4'-DDT	100	%
Endrin aldehyde	89	%
Endosulfan sulfate	94	%
Methoxychlor	94	%
Endrin ketone	95	%
Toxaphene	0.50	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

2/6/06

Lionville Laboratory Use Only: 06011132

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

See SRC

Client: TNU-Hanford RC-048/ RCS-048
Est. Final Proj. Sampling Date:
Project #: 11343-006-001-9999-00
Project Contact/Phone #:
Lionville Laboratory Project Manager: Deborah Johnson
QC: Spec Del: Std TAT: 30 days
Date Rec'd: 1.24.06 Date Due: 2/23/06

		A-C	D-F	G-H	I-J	K-L	M	N		O	P	Q	R	S
Refrigerator #		6	6	6	1	6	6	6		6	6	6	6	6
#/Type Container	Liquid / Solid	gl	gl	gl	gl	gl	pl	pl		gl	pl	pl	pl	[illegible]
Volume	Liquid / Solid	1L	1L	1L	40	1L	125	250/500		1L/500	125	125	125	25
Preservatives		—	—	—	HCL	HCL	—	HNO3		HCL	H2SO4	—	H2SO4	H2S
ANALYSES REQUESTED		ORGANIC						INORG						
		VOA	BNA	Pest/Pcb	PCB Aroc	TPH (GRO)	TPH (DRO)	ALK.	(3) Metal Hg	CN	Total TPH 418.1	NO2/NO3	(3) Anions	NH3

Lionville Laboratory Use Only

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected		0625H	0608H	OPCB	OGRO	ODRO	IALKL	METALS(D)		IPHC	INO2N3	ICO	INH3N	INTKN
001	J111K8	✓	✓	W	1.19.06	0900		3	3	2	2	2		1		1	1	1		
002	J111N2					1130		1	1	1	1	1		1		1	1	1		
003	J111L2					1230		1	1	1	1	1	1	1		1	1	1	1	1
004	J111N3					1330		1	1	1	1	1		1		1	1	1		
005	J111L3					1400		1	1	1	1	1	1	1		1	1	1	1	1
006	J111N4				1.20.06	1000		1	1	1	1	1		1		1	1	1		
007	J111L4					1100		1	1	1	1	1	1	1		1	1	1	1	1
008	J111N5					1230		1	1	1	1	1		1		1	1	1		
009	J111L5					1300		1	1	1	1	1	1	1		1	1	1	1	1

Special Instructions:

METALS(D) = HSL + Bi, B, Li, Mo, P, Si, Sr, Sn, U

IC(I) = LC - Br, Cl, F, Cl, NO3, NO2, PO4, SO4

DATE/REVISIONS:
1. 0608HV
2. OPCB R
3. OGRO B
4. ODRO A
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	D J Smith	12406	0910

Relinquished by	Received by	Date	Time

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-148	Page 2 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7N	Data Turnaround 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-5, SURFACE WATER, FULL QC		SAF No. RC-048	Air Quality ☐	
Ice Chest No. ERC-99-062	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A060255		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C					
Type of Container	P	G	G/P	aG	aGs*					
No. of Container(s)	1	1	1	2	2					
Volume	125mL	1000mL	125mL	1000mL	40mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions.	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G					
Sample No.	Matrix *	Sample Date	Sample Time							
J111K8	WATER	1-19-06	0900		X	X	X	X		

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Jesse E. Bernhard	1-19-06 1630	Received By/Stored In: EAS LOCKED STORAGE	1/19/06 1630
Relinquished By/Removed From: EAS LOCKED STORAGE	01-23-06 0730	Received By/Stored In: RZ Stoffler	1-23-06 0730
Relinquished By/Removed From: RZ Stoffler	1500 1-23-06	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: Fed Ex	1-24-06 0910	Received By/Stored In:	1-24-06 0910
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0 (Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-148	Page 2 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH
Price Code 7N	Data Turnaround 45 Days	Air Quality ☐	
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-5, SURFACE WATER, FULL QC	SAF No. RC-048	
Ice Chest No. ERC-99-062	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX
Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A060255	Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4° C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C						
Type of Container	P	G	G/P	aG	aGs*						
No. of Container(s)	1	1	1	2	2						
Volume	125mL	1000mL	125mL	1000mL	40mL						
SAMPLE ANALYSIS	See item (*) in Special Instructions.	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G						
Sample No. / Matrix * / Sample Date / Sample Time											
J111K8 / WATER / 1-19-06 / 0900	X										

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
James E. Bernhard	1-19-06 1630	EAS LOCKED STORAGE	1/19/06 1630
EAS LOCKED STORAGE	01-23-06/0730	RC Steffler R.J. Steffler	0730 1-23-06
RC Steffler R.J. Steffler	1-23-06 1500	Fed Ex	
Fed Ex	1.24.06/0910	D. Johnson	1.24.06/0910

SPECIAL INSTRUCTIONS

3 ORIGINAL

(*) IC Anions - 300.0 {Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate}

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-148	Page 1 of 2

Collector: TILLER, B Bernard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-5, SURFACE WATER, FULL QC	SAF No.: RC-048	
Ice Chest No.: ERC-99-062	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A060255	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	3	2	3
Volume	125mL	1000mL	1000mL	1000mL	1000mL	1000mL	500mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081

Sample No.	Matrix *	Sample Date	Sample Time										
J111K8	WATER	1-19-06	0900							X	X	X	X

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: James E. Bernard	1-19-06 1630	EAS LOCKED STORAGE	1/19/06 1630
Relinquished By/Removed From: EAS LOCKED STORAGE	01-23-06/0730	RZ Steffler R.J. Steffler	1-23-06/0730
Relinquished By/Removed From: RZ Steffler R.J. Steffler	1-23-06 1500	FED EX	
Relinquished By/Removed From: FED EX	1-24-06/0910		1-24-06/0910
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-171	Page 1 of 2

Collector TILLER, B	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code 7N	Data Turnaround 45 Days
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-6, SURFACE WATER		SAF No. RC-048	Air Quality ☐	
Ice Chest No. GRP-03-009	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060257		Bill of Lading/Air Bill No. SEE OSPC		

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 – Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226, Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides - 8081
J111N2	WATER	1-19-06	1130							X	X	X	X

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: James E. Bendel	1-19-06 1630	Received By/Stored In: EAS LOCKED STORAGE	1/19/06 1630
Relinquished By/Removed From: EAS LOCKED STORAGE	01-23-06 0730	Received By/Stored In: RZ Stiffler R.Z. Stiffler	0730 1-23-06
Relinquished By/Removed From: RZ Stiffler R.Z. Stiffler	(5-4) 1-23-06	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: Fed Ex	1-24-06/0910	Received By/Stored In: [illegible]	1-24-06/0910
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-171	Page 2 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH
Price Code 7N	Data Turnaround 45 Days	Air Quality ☐	
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-6, SURFACE WATER	SAF No. RC-048	
Ice Chest No. GRP-03-009	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060257	Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C						
Type of Container	P	G	G/P	aG	aGs*						
No. of Container(s)	1	1	1	1	1						
Volume	125mL 3	500mL 1/10/06	125mL	1000mL	40mL						
SAMPLE ANALYSIS	See item (4) in Special Instructions	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G						
Sample No.	Matrix *	Sample Date	Sample Time								
J111N2	WATER	1-19-06	1130	X							

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From Jim E. Bernhard	Date/Time 1-19-06 1030	Received By/Stored In EBS LOCKED STORAGE	Date/Time 1/19/06 16:30
Relinquished By/Removed From EBS LOCKED STORAGE	Date/Time 01-23-06/0730	Received By/Stored In RL Stiffler	Date/Time 0730 1-23-06
Relinquished By/Removed From RL Stiffler	Date/Time 1500 1-23-06	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From Fed Ex	Date/Time 1-24-06 1010	Received By/Stored In [illegible]	Date/Time 1-24-06 1010
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

3 1/10/06

(4) IC Anions - 300.0 (Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-171	Page 2 of 2

Collector: TILLER, B Bernhard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-6, SURFACE WATER	SAF No.: RC-048	
Ice Chest No.: GRP-03-009	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES, LIONVILLE	Offsite Property No.: A060257	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C						
Type of Container	P	G	G/P	aG	aGa*						
No. of Container(s)	1	1	1	1	1						
Volume	125mL	500mL	125mL	1000mL	40mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G						
Sample No.	Matrix *	Sample Date	Sample Time								
J111N2	WATER	1-19-06	1130		X	X	X	X			

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature] James E. Bernhard	1-19-06 1630	[signature] EAS LOCKED STORAGE	1/19/06 1630
Relinquished By/Removed From: EAS LOCKED STORAGE [signature]	01-23-06 0730	Received By/Stored In: RZ Stoffler [signature]	1-23-06 0730
Relinquished By/Removed From: RZ Stoffler [signature]	1-23-06 1500	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: Fed Ex	1-24-06 10:10	Received By/Stored In: [signature]	1-24-06 10:10
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0 {Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate}

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-151	Page 2 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH
Price Code 7N	Data Turnaround 45 Days	Air Quality ☐	
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-6, PORE WATER		SAF No. RC-048
Ice Chest No. GRP-03-009	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060257		Bill of Lading/Air Bill No. SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	Cool 4C	Cool 4C	
Type of Container	P	G	G/P	aG	aGs*	G/P	G/P	G/P	G/P	
No. of Container(s)	1	1	1	1	1	1	1	1	1	
Volume	125mL	500mL 3 HN 1/18/06	125mL	1000mL	40mL	125mL	250mL	125mL	250mL	
SAMPLE ANALYSIS	See item (#) in Special Instructions.	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G	Ammonia - 350.3	Nitrogen by Kjeldahl - 351.2	Alkalinity - 310.1	TDS - 160.1; TSS - 160.2	

Sample No.	Matrix *	Sample Date	Sample Time										
J111L2	WATER	1-19-06	1230	X									

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
James E. Bernhard	1-19-06 1630	EAS LOCKED STORAGE	1/19/06 1630
EAS LOCKED STORAGE	01-23-06 0730	RZ Stiffler R.Z. Stiffler	1-23-06 0730
RZ Stiffler R.Z. Stiffler	1-23-06 1500	Fed Ex	
Fed Ex	1-24-06 0910	W. Smith	1-24-06 0910

SPECIAL INSTRUCTIONS

3 HN 1/18/06

(#) IC Anions - 300.0 [Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate]

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-151	Page 2 of 2

Collector: TILLER, B Bernhard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-6, PORE WATER		SAF No.: RC-048
Ice Chest No.: GRP-03-009	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A060257		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	Cool 4C	Cool 4C	
Type of Container	P	G	G/P	aG	aGa*	G/P	G/P	G/P	G/P	
No. of Container(s)	1	1	1	1	1	1	1	1	1	
Volume	125mL	500mL	125mL	1000mL	40mL	125mL	250mL	125mL	250mL	
SAMPLE ANALYSIS	See item (1) in Special Instructions.	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G	Ammonia - 350.3	Nitrogen by Kjeldahl - 351.2	Alkalinity - 310.1	TDS - 160.1; TSS - 160.2	

Sample No.	Matrix *	Sample Date	Sample Time										
J111L2	WATER	1-19-06	1230		X	X	X	X	X	X	X	X	

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
James E. Bernhard	1-19-06 1630	LOCKED STORAGE	1/19/06 1630
EASTLOCKED STORAGE	01-23-06/0730	R2 Stoffler R.J. Stoffler	1-23 06 /0730
R2 Stoffler R.J. Stoffler	1500 1-23-06	FED EX	
	1-24-06/0910		1-24-06 0910

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0 (Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate)

Matrix *: S=Soil; SE=Sediment; SO=Solid; Sl=Sludge; W=Water; O=Oil; A=Air; DS=Drum So; DL=Drum Li; T=Tissue; Wi=Wipe; L=Liquid; Ve=Vegetatio; X=Other

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-151	Page 1 of 2

Collector: TILLER, B	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-6, PORE WATER	SAF No.: RC-048	
Ice Chest No.: GRP-03-009	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A060257	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides 8081
J111L2	WATER	1-19-06	1230							X	X	X	X

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Tanner E. Bernhard	1-19-06 1630	GAS LOCKED STORAGE	1/19/06 1630
GAS LOCKED STORAGE	01-23-06 0730	RZ Stiffler	1-23-06 0730
RZ Stiffler	1-23-06 1500	Fed Ex	
Fed Ex	1-24-06 0910		1-24-06 0910

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}
(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-172	Page 1 of 2

Collector: TILLER, B Bernhard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-7, SURFACE WATER	SAF No.: RC-048	
Ice Chest No.: ERC-02-002	Field Logbook No.: BL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A060256	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL

SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides 8081
J111N3	X	X	X	X						

Sample No.	Matrix *	Sample Date	Sample Time
J111N3	WATER	1-19-06	1330

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Jack E. Bohl	1/19/06 1630	ENS LOCKED STORAGE	1/19/06 1630
ENS LOCKED STORAGE	1-23-06 / 0730	RZ Stoffler	1-23-06 / 0730
RZ Stoffler	1-23-06 1500	FED EX	
FED EX	1-24-06 / 0910		1-24-06 / 0910

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) [Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238]
(2) ICP Metals - 6010 (Full List) [Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc]; Mercury - 7470 - (CV)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-172	Page 2 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH
Price Code 7N	Data Turnaround 45 Days	Air Quality ☐	
Project Destination 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-7, SURFACE WATER	SAF No. RC-048	
Ice Chest No. ERC-02-002	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060256	Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool/4°C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C						
Type of Container	P	G	G/P	aG	aGs*						
No. of Container(s)	1	1	1	1	1						
Volume	125mL	500mL	125mL	1000mL	40mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G						
Sample No.	Matrix *	Sample Date	Sample Time								
J111N3	WATER	1-19-06	1330		X	X	X	X			

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible] Jamie E. Bernhard	1/19/06 1630	EAS LOCKED STORAGE	1/19/06 1630
EAS LOCKED STORAGE [illegible]	01-23-06/0730	RE Stiffler [illegible]	1-23-06 /0730
RE Stiffler [illegible]	1-23-06 1500	Fed Ex	
Fed Ex	1-24-06 /0910	D. [illegible]	1-24-06 /0910
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

Sign/Print Names

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0 [Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate]

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-172	Page 2 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH
Price Code 7N	Data Turnaround 45 Days	Air Quality ☐	
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-7, SURFACE WATER	SAF No. RC-048	
Ice Chest No. ERC-02-002	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX
Shipped To EBERLINE SERVICES LIONVILLE	Offsite Property No. A060256	Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C						
Type of Container	P	G	G/P	aG	aGs*						
No. of Container(s)	1	1	1	1	1						
Volume	125mL	500mL 3 1/19/06	125mL	1000mL	40mL						
SAMPLE ANALYSIS	See item(s) in Special Instructions.	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G						
Sample No. / Matrix * / Sample Date / Sample Time											
J111N3 / WATER / 1-19-06 / 1330	X										

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[signature] E. Bartl	1/19/06 1630	EAS LOCKED STORAGE	1/19/06 1630
Relinquished By/Removed From EAS LOCKED STORAGE	Date/Time 1-23-06/0730	Received By/Stored In R2 Stoffler R.P. Stoffler	Date/Time 1-23-06/0730
Relinquished By/Removed From R2 Stoffler R.P. Stoffler	Date/Time 1-23-06	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From Fed Ex	Date/Time 1-24-06 0910	Received By/Stored In N. Smith	Date/Time 1-24-06/0910
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

3 1/19/06

(1) IC Anions - 300.0 (Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate)

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-155	Page 2 of 2

Collector: TILLER, B Bernhard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality: ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-7, PORE WATER	SAF No.: RC-048	
Ice Chest No.: ERC-03-106	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A060254	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

SAMPLE ANALYSIS													
			Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	Cool 4C	Cool 4C	
			Type of Container	P	G	G/P	sG	sGs*	G/P	G/P	G/P	G/P	
			No. of Container(s)	1	1	1	1	1	1	1	1	1	
			Volume	125mL	500mL	125mL	1000mL	40mL	125mL	250mL	125mL	250mL	
				3 JAP 1180 G									
				See item (1) in Special Instructions.	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G	Ammonia - 350.3	Nitrogen by Kjeldahl - 351.2	Alkalinity - 310.1	TDS - 160.1; TSS - 160.2	
Sample No.	Matrix *	Sample Date	Sample Time										
J111L3	WATER	1-19-06	1400	X									

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: [signature] Bernhard	1-19-06 1030	Received By/Stored In: EAS LOCKED STORAGE	1/19/06 1630
Relinquished By/Removed From: EAS LOCKED STORAGE	01-23-06 0730	Received By/Stored In: RZ Stoffler	1-23-06 0730
Relinquished By/Removed From: RZ Stoffler	1500 1-23-06	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: [signature]	1-24-06 09:10	Received By/Stored In: D. Minton	1-24-06 09:10
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

3 JAP 1180 G

(1) IC Anions - 300.0 [Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate]

Matrix *

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-155	Page 2 of 2

Collector: TILLER, B Bernhard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-7, PORE WATER	SAF No.: RC-048	
Ice Chest No.: ERC-03-106	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES / JONVILLE	Offsite Property No.: A060254	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	Cool 4C	Cool 4C	
Type of Container	P	G	G/P	aG	aGs*	G/P	G/P	G/P	G/P	
No. of Container(s)	1	1	1	1	1	1	1	1	1	
Volume	125mL	500mL	125mL	1000mL	40mL	125mL	250mL	125mL	250mL	
SAMPLE ANALYSIS	See item (1) in Special Instructions.	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G	Ammonia - 350.3	Nitrogen by Kjeldahl - 351.2	Alkalinity - 310.1	TDS - 160.1; TSS - 160.2	

Sample No.	Matrix *	Sample Date	Sample Time										
J111L3	WATER	1-19-06	1400		X	X	X	X	X	X	X	X	

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: JC Jaime E. Bonilla	1-19-06 1630	Received By/Stored In: GAS LOCKED STORAGE	1/19/06 16:30
Relinquished By/Removed From: GAS LOCKED STORAGE	01-23-06/0730	Received By/Stored In: RZ Stoffler R.Z. Stoffler	1-23-06/0730
Relinquished By/Removed From: RZ Stoffler R.Z. Stoffler	1500 1-23-06	Received By/Stored In: Fed Ex	
Relinquished By/Removed From: Fed Ex	1-24-06/0910	Received By/Stored In: D Johnson	1-24-06/0910
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0 {Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate}

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-155	Page 1 of 2

Collector TILLER, B Bernhard	Company Contact JOAN KESSNER	Telephone No. 375-4688	Project Coordinator KESSNER, JH
Price Code 7N	Data Turnaround 45 Days	Air Quality ☐	
Project Designation 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location U-7, PORE WATER		SAF No. RC-048
Ice Chest No. ERC-03-106	Field Logbook No. EL-1597	COA BESRAS6520	Method of Shipment FED EX
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A060254		Bill of Lading/Air Bill No. SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000mL
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticides 8081
Sample No. / Matrix * / Sample Date / Sample Time										
J111L3 / WATER / 1-19-06 / 1400							X	X	X	X

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Bernhard	1-19-06 1630	Received By/Stored In: EAS LOCKED STORAGE	1/19/06 1630
Relinquished By/Removed From: EAS LOCKED STORAGE	1-23-06 0730	Received By/Stored In: RZ Stiffler R.Z. Stiffler	1-23-06 0730
Relinquished By/Removed From: RZ Stiffler R.Z. Stiffler	1-23-06 0845	Received By/Stored In: Fed Ex	
Relinquished By/Removed From:	1-24-06 0910	Received By/Stored In:	1-24-06 0910
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) {Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238}

(2) ICP Metals - 6010 (Full List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc}; Mercury - 7470 - (CV)

Matrix

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum S
DL=Drum L
T=Tissue
Wi=Wipe
L=Liquid
Ve=Vegetat
X=Other

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-173	Page 2 of 2

Collector: TILLER, B Bernhard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-8, SURFACE WATER	SAF No.: RC-048	
Ice Chest No.: ERC-03-106	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES, LIONVILLE	Offsite Property No.: A060254	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C					
Type of Container	P	G	G/P	aG	aGa*					
No. of Container(s)	1	1	1	1	1					
Volume	125mL	500mL 3 MD 11806	125mL	1000mL	40mL					
SAMPLE ANALYSIS	See item (1) in Special Instructions	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G					
Sample No.	Matrix *	Sample Date	Sample Time								
J111N4	WATER	1-22-06	1800	X							

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS
Relinquished By/Removed From: James E. Bernhard; Date/Time: 1-22-06 1600	Received By/Stored In: EAS Locked Storage; Date/Time: 1-22-06 1600	3 MD 11806 (1) IC Anions - 300.0 [Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate]
Relinquished By/Removed From: EAS LOCKED STORAGE; Date/Time: 01-23-06/0730	Received By/Stored In: RZ Stiffler; Date/Time: 1-23-06/0730	
Relinquished By/Removed From: RZ Stiffler; Date/Time: 1-23-06	Received By/Stored In: Fed EX; Date/Time:	
Relinquished By/Removed From: Fed EX; Date/Time: 1-24-06/0910	Received By/Stored In: D Smith; Date/Time: 1-24-06/0910	
Relinquished By/Removed From:	Received By/Stored In:	
Relinquished By/Removed From:	Received By/Stored In:	

Matrix: Soil, SE=Sediment, SO=Solid, Sl=Sludge, W=Water, O=Oil, A=Air, DS=Drum S, DL=Drum L, Ta=Tissue, Wi=Wipe, L=Liquid, Ve=Vegetati, X=Other

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-173	Page 2 of 2

Collector: TILLER, B Bernard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-8, SURFACE WATER		SAF No.: RC-048
Ice Chest No.: ERC-03-106	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES, LIONVILLE	Offsite Property No.: A060254		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C						
Type of Container	P	G	G/P	aG	aGr*						
No. of Container(s)	1	1	1	1	1						
Volume	125mL	500mL	125mL	1000mL	40mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G						
Sample No.	Matrix *	Sample Date	Sample Time								
J111N4	WATER	1-22-06	1000		X	X	X	X			

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: James E. Bernard	Date/Time: 1-22-06 1600	Received By/Stored In: EAS Locked Storage — Date/Time: 1-22-06 1600
Relinquished By/Removed From: EAS Locked Storage	Date/Time: 01-23-06 0730	Received By/Stored In: RZ Stoffler — Date/Time: 1-23-06 0730
Relinquished By/Removed From: RZ Stoffler	Date/Time: 1500 WCH 1-23-06	Received By/Stored In: Fed Ex — Date/Time:
Relinquished By/Removed From: Fed Ex	Date/Time: 1-24-06 0910	Received By/Stored In: D Smith — Date/Time: 1-24-06 0910
Relinquished By/Removed From:	Date/Time:	Received By/Stored In: — Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In: — Date/Time:

SPECIAL INSTRUCTIONS

(1) IC Anions - 300.0 (Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate)

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

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-173	Page 1 of 2

Collector: TILLER, B Bernhard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaroun: 45 Days		
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-8, SURFACE WATER	SAF No.: RC-048	Air Quality ☐
Ice Chest No.: ERC-03-106	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES LIONVILLE	Offsite Property No.: A060254	Bill of Lading/Air Bill No.: SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	None	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4
Type of Container	P	G/P	G/P	G/P	G/P	G/P	G/P	aG	aG	aG
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	1000mL	1000mL	1000mL	1000mL	1000mL	250mL	1000mL	1000mL	1000r
SAMPLE ANALYSIS	Tritium - H3	See item (1) in Special Instructions.	Strontium-89,90 -- Total Sr	Isotopic Thorium (Thorium-232)	Isotopic Uranium (Uranium-233/234, Uranium-235, Uranium-238)	Radium -226; Ra-228	See item (2) in Special Instructions.	Semi-VOA - 8270A (TCL)	PCBs - 8082	Pesticid 808

Sample No.	Matrix *	Sample Date	Sample Time										
J111N4	WATER	1-22-06	1000							X	X	X	X

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
James E. Bernhard	1-22-06 1600	EAS Locked Storage	1-22-06 1600
EAS LOCKED STORAGE	01-23-06/0730	RZ Shiffler	1-23-06/0730
RZ Shiffler	1-23-06 1500	Fed Ex	
Fed Ex	1-24-06/0910		1-24-06/0910

SPECIAL INSTRUCTIONS

(1) Gamma Spec - (Full List) [Americium-241, Antimony-125, Beryllium-7, Cesium-134, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Potassium-40, Ruthenium-106, Thorium-234, Uranium-235, Uranium-238]

(2) ICP Metals - 6010 (Full List) [Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Strontium, Thallium, Tin, Uranium, Vanadium, Zinc]; Mercury - 7470 - (CV)

Matrix
S=Soil
SE=Sedim
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum
DL=Drum
T=Tissue
Wi=Wipe
L=Liquid
V=Vegeta
X=Other

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

BHI-EE-011 (08/29/2005)

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-048-156	Page 2 of 2

Collector: TILLER, B Bernhard	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 7N	Data Turnaround: 45 Days	Air Quality ☐	
Project Designation: 100 Area and 300 Area Component of the RCBRA Water Sa	Sampling Location: U-8, PORE WATER		SAF No.: RC-048
Ice Chest No.: BHI-94	Field Logbook No.: EL-1597	COA: BESRAS6520	Method of Shipment: FED EX
Shipped To: EBERLINE SERVICES (LIONVILLE)	Offsite Property No.: A060253		Bill of Lading/Air Bill No.: SEE OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

POTENTIAL RADIOACTIVE < DOT LIMITS

Special Handling and/or Storage

Cool 4°C

Preservation	Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	HCl to pH <2 Cool 4C	HCl to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	H2SO4 to pH <2 Cool 4C	Cool 4C	Cool 4C
Type of Container	P	G	G/P	aG	aGs*	G/P	G/P	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1
Volume	125mL 3	500mL	125mL	1000mL	40mL	125mL	250mL	125mL	250mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	See item (1) in Special Instructions.	TPH (Total) - 418.1	NO2/NO3 - 353.2	TPH-Diesel Range - WTPH-D	TPH-Gasoline Range - WTPH-G	Ammonia - 350.3	Nitrogen by Kjeldahl - 351.2	Alkalinity - 310.1	TDS - 160.1; TSS - 160.2
J111L4	WATER	1-22-06	1100	X								

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
James E. Bernhard	1-22-06 1600	EAS Locked Storage	1-22-06 1600
EAS LOCKED STORAGE	01-23-06 0730	RZ Stoffler	1-23-06 0730
RZ Stoffler	1-23-06 1500	Fed Ex	
Fed Ex	1-24-06 0910		1-24-06 0910

SPECIAL INSTRUCTIONS

3 ml 11006

(1) IC Anions - 300.0 (Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate)

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

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

BHI-EE-011 (08/29/2005)