



EBERLINE SERVICES

DECEMBER 12, 2012

EBERLINE ANALYTICAL CORPORATION

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December 5, 2012

Mr. Scot Fitzgerald
CH2M Hill Plateau Remediation Company
P.O. Box 1600
Mail Stop – B6-06
Richland, WA 99352

Reference: **P.O. #33677**
Eberline Analytical S2-10-089-7030, SDG H4755

Dear Mr. Fitzgerald:

Enclosed is a data report for twenty water samples designated under SAF No. I13-002 received at Eberline Analytical on October 30, 2012 and subsequently analyzed according to the accompanying chain-of-custody documents.

Please call if you have any questions concerning this report.

Sincerely,

Joseph Verville
Client Services Manager

NJV/

Enclosure: Case Narrative

1.0 GENERAL

CH2M Hill Plateau Remediation Company (CHPRC) Sample Delivery Group H4755 was composed of twenty water samples designated under SAF No. I13-002 with a Project Designation of: 100KR4(1), November 2012.

The samples were received as stated on the Chain-of-Custody documents. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist.

2.0 ANALYSIS NOTES

2.1 Carbon-14 Analysis

No problems were encountered during the course of the analyses. The carbon-14 QC MS analysis data sheet denotes an "X" qualifier, which indicates that some data was manually entered and may need to be double checked; in this case the "added amount" was manually entered, and subsequently double checked.

3.0 Case Narrative Certification Statement

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



Joseph Verville
Client Services Manager

12/5/12

Date

DECEMBER 12, 2012

SAMPLE ISSUE RESOLUTION

SIR NUM SDR13-026
REV NUM 0
DATE INITIATED 10/30/2012

SAMPLE EVENT INFORMATION

SAF NUM(S) I13-002
OPERABLE UNIT(S) 100-KR-4
PROJECT(S) CERC13
SAMPLE EVENT TITLE(S) CERC13
LABORATORY Eberline Services

SAMPLING INFORMATION

NUMBER OF SAMPLES 1
SAMPLE NUMBERS B2MPR7
SAMPLE MATRIX WATER
COLLECTION DATE 10/29/2012 - 10/29/2012
SDG NUM H4755

ISSUE BACKGROUND

CLASS Laboratory Issue
TYPE Chain of Custody Issue
DESCRIPTION The "lab received time" is not entered on chain of custody for sample number B2MPR7.

DISPOSITION

DESCRIPTION PROPOSED DISPOSITION: Document the anomaly, have Eberline insert the SIR into the data package, and close the SIR.

JUSTIFICATION ACCEPTED DISPOSITION: Eberline did not respond to the SIR. SMR will document the anomaly, insert the SIR into the data package and close the SIR.

SUBMITTED BY: Gayelyn Gibson/CHPRC DATE 10/30/12
ACCEPTED BY: Susan Puckett/CHPRC DATE: 12/12/12

SDG 7030
Contact Joseph Verville

Client Hanford
Contract No. 33677
Case no SDG_H4755

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 CHPRC
Version Ver 1.0
Form DVD-TOC
Version 3.06
Report date 12/05/12

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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

REPORT GUIDE

Client Hanford
Contract No. 33677
Case no SDG_H4755

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.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EBRLNE
Protocol CHPRC
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/05/12

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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

GUIDE, cont.

Client Hanford
Contract No. 33677
Case no SDG_H4755

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.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EBRLNE
Protocol CHPRC
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/05/12

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EBERLINE ANALYTICAL-RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
 Contact Joseph Verville

LAB SAMPLE SUMMARY

Client Hanford
 Contract No. 33677
 Case no SDG H4755

LAB	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CHAIN OF CUSTODY	COLLECTED
S210089-01	E2MPL1	Hanford Site	WATER		I13-002	I13-002-005	10/29/12 10:14
S210089-02	E2MPM4	Hanford Site	WATER		I13-002	I13-002-006	10/25/12 09:46
S210089-03	E2MPN0	Hanford Site	WATER		I13-002	I13-002-007	10/25/12 10:31
S210089-04	E2MPN6	Hanford Site	WATER		I13-002	I13-002-008	10/25/12 10:09
S210089-05	E2MPP0	Hanford Site	WATER		I13-002	I13-002-009	10/25/12 09:06
S210089-06	E2MPR1	Hanford Site	WATER		I13-002	I13-002-010	10/25/12 12:27
S210089-07	E2MPR7	Hanford Site	WATER		I13-002	I13-002-011	10/29/12 12:16
S210089-08	E2MPT8	Hanford Site	WATER		I13-002	I13-002-012	10/26/12 08:42
S210089-09	E2MPV4	Hanford Site	WATER		I13-002	I13-002-013	10/25/12 11:32
S210089-10	E2MPW5	Hanford Site	WATER		I13-002	I13-002-014	10/25/12 13:22
S210089-11	E2MPX1	Hanford Site	WATER		I13-002	I13-002-015	10/25/12 10:15
S210089-12	E2MR08	Hanford Site	WATER		I13-002	I13-002-016	10/25/12 12:30
S210089-13	E2MR09	Hanford Site	WATER		I13-002	I13-002-017	10/25/12 12:30
S210089-14	E2MR19	Hanford Site	WATER		I13-002	I13-002-018	10/25/12 11:56
S210089-15	E2MR26	Hanford Site	WATER		I13-002	I13-002-019	10/25/12 11:20
S210089-16	E2MR46	Hanford Site	WATER		I13-002	I13-002-022	10/25/12 11:56
S210089-17	E2MR47	Hanford Site	WATER		I13-002	I13-002-023	10/25/12 11:56
S210089-18	E2MR56	Hanford Site	WATER		I13-002	I13-002-024	10/25/12 11:08
S210089-19	E2MR62	Hanford Site	WATER		I13-002	I13-002-025	10/25/12 13:39
S210089-20	E2MR68	Hanford Site	WATER		I13-002	I13-002-026	10/25/12 12:46
S210089-21	Lab Control Sample		WATER		I13-002		
S210089-22	Method Blank		WATER		I13-002		
S210089-23	Duplicate (S210089-01)	Hanford Site	WATER		I13-002		10/29/12 10:14
S210089-24	Spike (S210089-02)	Hanford Site	WATER		I13-002		10/25/12 09:46

LAB SUMMARY

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SUMMARY DATA SECTION

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EBERLINE ANALYTICAL-RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

Client Hanford
Contract No. 33677
Case no SDG H4755

QC SUMMARY

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7030	I13-002-005	B2MPL1	WATER		125 mL		10/30/12	1	S210089-01	7030-001
	I13-002-006	B2MPM4	WATER		125 mL		10/30/12	5	S210089-02	7030-002
	I13-002-007	B2MPN0	WATER		125 mL		10/30/12	5	S210089-03	7030-003
	I13-002-008	B2MPN6	WATER		125 mL		10/30/12	5	S210089-04	7030-004
	I13-002-009	B2MPP0	WATER		125 mL		10/30/12	5	S210089-05	7030-005
	I13-002-010	B2MPR1	WATER		125 mL		10/30/12	5	S210089-06	7030-006
	I13-002-011	B2MPR7	WATER		125 mL		10/30/12	1	S210089-07	7030-007
	I13-002-012	B2MPT8	WATER		125 mL		10/30/12	4	S210089-08	7030-008
	I13-002-013	B2MPV4	WATER		125 mL		10/30/12	5	S210089-09	7030-009
	I13-002-014	B2MPW5	WATER		125 mL		10/30/12	5	S210089-10	7030-010
	I13-002-015	B2MPX1	WATER		125 mL		10/30/12	5	S210089-11	7030-011
	I13-002-016	B2MR08	WATER		125 mL		10/30/12	5	S210089-12	7030-012
	I13-002-017	B2MR09	WATER		125 mL		10/30/12	5	S210089-13	7030-013
	I13-002-018	B2MR19	WATER		125 mL		10/30/12	5	S210089-14	7030-014
	I13-002-019	B2MR26	WATER		125 mL		10/30/12	5	S210089-15	7030-015
	I13-002-022	B2MR46	WATER		125 mL		10/30/12	5	S210089-16	7030-016
	I13-002-023	B2MR47	WATER		125 mL		10/30/12	5	S210089-17	7030-017
	I13-002-024	B2MR56	WATER		125 mL		10/30/12	5	S210089-18	7030-018
	I13-002-025	B2MR62	WATER		125 mL		10/30/12	5	S210089-19	7030-019
	I13-002-026	B2MR68	WATER		125 mL		10/30/12	5	S210089-20	7030-020

Lab id EBERLINE
Protocol CHPRC
Version Ver 1.0
Form DVD-QS
Version 3.06
Report date 12/05/12

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EBERLINE ANALYTICAL-RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
 Contact Joseph Verville

QC SUMMARY, cont.

Client Hanford
 Contract No. 33677
 Case no SDG H4755

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
		Method Blank	WATER						S210089-22	7030-022
		Lab Control Sample	WATER						S210089-21	7030-021
		Duplicate (S210089-01)	WATER		125 mL		10/30/12	1	S210089-23	7030-023
		Spike (S210089-02)	WATER		125 mL		10/30/12	5	S210089-24	7030-024

QC SUMMARY

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EBERLINE ANALYTICAL-RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

PREP BATCH SUMMARY

Client Hanford
Contract No. 33677
Case no SDG H4755

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALI-		
			BATCH	2σ %	CLIENT	MORE	RE	BLANK		LCS	DUP/ORIG
Liquid Scintillation Counting											
C	WATER	Carbon 14 in Water	7733-151	10.0	20		1	1	1/1	1/1	X

Blank, LCS, Duplicate and Spike planchets are those in the same preparation batch as some Client sample.

Lab id EBRLNE
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SAMPLE DELIVERY GROUP H4755

SDG 7030
 Contact Joseph Verville

Client Hanford
 Contract No. 33677
 Case no SDG H4755

LAB WORK SUMMARY

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAF No	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S210089-01	B2MPL1		7030-001	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/29/12	Hanford Site									
10/30/12	I13-002-005	I13-002								
S210089-02	B2MPM4		7030-002	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-006	I13-002								
S210089-03	B2MPN0		7030-003	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-007	I13-002								
S210089-04	B2MPN6		7030-004	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-008	I13-002								
S210089-05	B2MPP0		7030-005	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-009	I13-002								
S210089-06	B2MPR1		7030-006	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-010	I13-002								
S210089-07	B2MPR7		7030-007	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/29/12	Hanford Site									
10/30/12	I13-002-011	I13-002								
S210089-08	B2MPT8		7030-008	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/26/12	Hanford Site									
10/30/12	I13-002-012	I13-002								
S210089-09	B2MPV4		7030-009	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-013	I13-002								
S210089-10	B2MPW5		7030-010	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-014	I13-002								

WORK SUMMARY

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Lab id EBRLNE
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EBERLINE ANALYTICAL-RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
 Contact Joseph Verville

WORK SUMMARY, cont.

Client Hanford
 Contract No. 33677
 Case no SDG H4755

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAF No	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S210089-11	B2MPX1		7030-011	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-015	I13-002								
S210089-12	B2MR08		7030-012	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-016	I13-002								
S210089-13	B2MR09		7030-013	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-017	I13-002								
S210089-14	B2MR19		7030-014	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-018	I13-002								
S210089-15	B2MR26		7030-015	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-019	I13-002								
S210089-16	B2MR46		7030-016	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-022	I13-002								
S210089-17	B2MR47		7030-017	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-023	I13-002								
S210089-18	B2MR56		7030-018	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-024	I13-002								
S210089-19	B2MR62		7030-019	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-025	I13-002								
S210089-20	B2MR68		7030-020	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site									
10/30/12	I13-002-026	I13-002								

WORK SUMMARY

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 Form DVD-LWS
 Version 3.05
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EBERLINE ANALYTICAL-RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
 Contact Joseph Verville

Client Hanford
 Contract No. 33677
 Case no SDG H4755

WORK SUMMARY, cont.

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX		SUF-						
RECEIVED	CUSTODY	SAF No	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S210089-21	Lab Control Sample		7030-021	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
		WATER								
		I13-002								
S210089-22	Method Blank		7030-022	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
		WATER								
		I13-002								
S210089-23	Duplicate (S210089-01)		7030-023	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/29/12	Hanford Site	WATER								
10/30/12		I13-002								
S210089-24	Spike (S210089-02)		7030-024	C		11/13/12	11/16/12	BW	Carbon 14 in Water	
10/25/12	Hanford Site	WATER								
10/30/12		I13-002								

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
C	I13-002	Carbon 14 in Water	C14_CHEM_LSC	20			1	1	1	1	24
TOTALS				20			1	1	1	1	24

WORK SUMMARY

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Lab id EBRLNE
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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-022

Method Blank

METHOD BLANK

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-22</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7030-022</u>	Material/Matrix <u>WATER</u>	
	SAF No <u>I13-002</u>	

ANALYTE	CAS NO	RESULT pCi/L	2 σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	11.2	33	55.4	200	U	C

QC-BLANK #82849

METHOD BLANKS

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SUMMARY DATA SECTION

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/05/12</u>

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EBERLINE ANALYTICAL-RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-023

B2MPL1

DUPLICATE

SDG <u>7030</u>	Client/Case no <u>Hanford</u> SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>
DUPLICATE	ORIGINAL
Lab sample id <u>S210089-23</u>	Lab sample id <u>S210089-01</u>
Dept sample id <u>7030-023</u>	Dept sample id <u>7030-001</u>
	Received <u>10/30/12</u>
	Client sample id <u>B2MPL1</u>
	Location/Matrix <u>Hanford Site</u> <u>WATER</u>
	Collected/Volume <u>10/29/12 10:14</u> <u>125 mL</u>
	Custody/SAF No <u>I13-002-005</u> <u>I13-002</u>

ANALYTE	DUPLICATE				ORIGINAL				RPD %	3σ TOT	DER σ
	pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	pCi/L	2σ ERR (COUNT)			
Carbon 14	175	37	54.5	200	C		147	37	55.1	17	53 1.0

QC-DUP#1 82850

100KR4(1) November 2012

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>12/05/12</u>

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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-024

B2MPM4

MATRIX SPIKE

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	<u>SDG H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
MATRIX SPIKE	ORIGINAL	
Lab sample id <u>S210089-24</u>	Lab sample id <u>S210089-02</u>	Client sample id <u>B2MPM4</u>
Dept sample id <u>7030-024</u>	Dept sample id <u>7030-002</u>	Location/Matrix <u>Hanford Site</u> <u>WATER</u>
	Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 09:46</u> <u>125 mL</u>
		Custody/SAF No <u>I13-002-006</u> <u>I13-002</u>

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 % (TOTAL)	LMTS (TOTAL)	PROTOCOL LIMITS
Carbon 14	14400	200	79.8	200	X	C	14300	570	7.01	33	101	84-116	80-120

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MATRIX SPIKES

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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-001

B2MPL1

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-01</u>	Client sample id <u>B2MPL1</u>	
Dept sample id <u>7030-001</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/29/12 10:14</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-005</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	147	37	55.1	200		C

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Lab id <u>EBRLNE</u>
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Report date <u>12/05/12</u>

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EBERLINE ANALYTICAL - RICHMOND
SAMPLE DELIVERY GROUP H4755

7030-002

B2MPM4

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S210089-02</u>	Client sample id <u>B2MPM4</u>	
Dept sample id <u>7030-002</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 09:46</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-006</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2 σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	7.01	33	55.5	200	U	C

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-003

B2MPN0

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S210089-03</u>	Client sample id <u>B2MPN0</u>	
Dept sample id <u>7030-003</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 10:31</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-007</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	7.89	33	55.2	200	U	C

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-004

B2MPN6

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-04</u>	Client sample id <u>B2MPN6</u>	
Dept sample id <u>7030-004</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 10:09</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-008</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	17.3	33	54.1	200	U	C

100KR4(1) November 2012

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
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EBERLINE ANALYTICAL - RICHMOND
SAMPLE DELIVERY GROUP H4755

7030-005

B2MPP0

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S210089-05</u>	Client sample id <u>B2MPP0</u>	
Dept sample id <u>7030-005</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 09:06</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-009</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2 σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	15.6	33	54.3	200	U	C

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
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Report date <u>12/05/12</u>

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EBERLINE ANALYTICAL - RICHMOND
SAMPLE DELIVERY GROUP H4755

7030-006

B2MPR1

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-06</u>	Client sample id <u>B2MPR1</u>	
Dept sample id <u>7030-006</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 12:27</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-010</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	1.39	33	54.9	200	U	C

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-007

B2MPR7

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S210089-07</u>	Client sample id <u>B2MPR7</u>	
Dept sample id <u>7030-007</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/29/12 12:16</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-011</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	3.61	32	53.6	200	U	C

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
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Version <u>3.06</u>
Report date <u>12/05/12</u>

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EBERLINE ANALYTICAL - RICHMOND
SAMPLE DELIVERY GROUP H4755

7030-008

B2MPT8

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S210089-08</u>	Client sample id <u>B2MPT8</u>	
Dept sample id <u>7030-008</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/26/12 08:42</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-012</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	29.5	33	53.9	200	U	C

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
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EBERLINE ANALYTICAL - RICHMOND
SAMPLE DELIVERY GROUP H4755

7030-009

B2MPV4

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-09</u>	Client sample id <u>B2MPV4</u>	
Dept sample id <u>7030-009</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 11:32</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-013</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	35.3	34	55.1	200	U	C

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-010

B2MPW5

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-10</u>	Client sample id <u>B2MPW5</u>	
Dept sample id <u>7030-010</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 13:22</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-014</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	7.93	33	55.4	200	U	C

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
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Report date <u>12/05/12</u>

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EBERLINE ANALYTICAL - RICHMOND
SAMPLE DELIVERY GROUP H4755

7030-011

B2MPX1

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-11</u>	Client sample id <u>B2MPX1</u>	
Dept sample id <u>7030-011</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 10:15</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-015</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2 σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	2720	78	54.9	200		C

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-012

B2MR08

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S210089-12</u>	Client sample id <u>B2MR08</u>	
Dept sample id <u>7030-012</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 12:30</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-016</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	1040	52	51.4	200		C

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
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EBERLINE ANALYTICAL - RICHMOND
SAMPLE DELIVERY GROUP H4755

7030-013

B2MR09

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-13</u>	Client sample id <u>B2MR09</u>	
Dept sample id <u>7030-013</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 12:30</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-017</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	1130	55	53.7	200		C

100KR4 (1) November 2012

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
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Report date <u>12/05/12</u>

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EBERLINE ANALYTICAL - RICHMOND
SAMPLE DELIVERY GROUP H4755

7030-014

B2MR19

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S210089-14</u>	Client sample id <u>B2MR19</u>	
Dept sample id <u>7030-014</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 11:56</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-018</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	529	43	51.8	200		C

100KR4(1) November 2012

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
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Report date <u>12/05/12</u>

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EBERLINE ANALYTICAL - RICHMOND
SAMPLE DELIVERY GROUP H4755

7030-015

B2MR26

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-15</u>	Client sample id <u>B2MR26</u>	
Dept sample id <u>7030-015</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 11:20</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-019</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALIFIERS	TEST
Carbon 14	14762-75-5	1570	63	54.6	200		C

100KR4(1) November 2012

Lab id <u>EBRLINE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/05/12</u>

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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-016

B2MR46

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S210089-16</u>	Client sample id <u>B2MR46</u>	
Dept sample id <u>7030-016</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 11:56</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-022</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	17.9	33	54.6	200	U	C

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EBERLINE ANALYTICAL - RICHMOND
SAMPLE DELIVERY GROUP H4755

7030-017

B2MR47

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-17</u>	Client sample id <u>B2MR47</u>	
Dept sample id <u>7030-017</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 11:56</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-023</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	34.3	32	52.9	200	U	C

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-018

B2MR56

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-18</u>	Client sample id <u>B2MR56</u>	
Dept sample id <u>7030-018</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 11:08</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-024</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	20.4	32	53.8	200	U	C

100KR4(1) November 2012

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
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Report date <u>12/05/12</u>

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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

7030-019

B2MR62

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-19</u>	Client sample id <u>B2MR62</u>	
Dept sample id <u>7030-019</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 13:39</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-025</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	17.5	32	53.4	200	U	C

100KR4(1) November 2012

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/05/12</u>

DECEMBER 12, 2012

EBERLINE ANALYTICAL - RICHMOND
SAMPLE DELIVERY GROUP H4755

7030-020

B2MR68

DATA SHEET

SDG <u>7030</u>	Client/Case no <u>Hanford</u>	SDG <u>H4755</u>
Contact <u>Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S210089-20</u>	Client sample id <u>B2MR68</u>	
Dept sample id <u>7030-020</u>	Location/Matrix <u>Hanford Site</u>	<u>WATER</u>
Received <u>10/30/12</u>	Collected/Volume <u>10/25/12 12:46</u>	<u>125 mL</u>
	Custody/SAF No <u>I13-002-026</u>	<u>I13-002</u>

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Carbon 14	14762-75-5	22.6	32	52.6	200	U	C

100KR4(1) November 2012

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/05/12</u>

DECEMBER 12, 2012
EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

Test C Matrix WATER
SDG 7030
Contact Joseph Verville

LAB METHOD SUMMARY

CARBON 14 IN WATER

LIQUID SCINTILLATION COUNTING

Client Hanford
Contract No. 33677
Contract SDG H4755

RESULTS

LAB RAW SUF-

SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Carbon 14

Preparation batch 7733-151

S210089-01	7030-001	B2MPL1	147
S210089-02	7030-002	B2MPM4	U
S210089-03	7030-003	B2MPN0	U
S210089-04	7030-004	B2MPN6	U
S210089-05	7030-005	B2MPP0	U
S210089-06	7030-006	B2MPR1	U
S210089-07	7030-007	B2MPR7	U
S210089-08	7030-008	B2MPT8	U
S210089-09	7030-009	B2MPV4	U
S210089-10	7030-010	B2MPW5	U
S210089-11	7030-011	B2MPX1	2720
S210089-12	7030-012	B2MR08	1040
S210089-13	7030-013	B2MR09	1130
S210089-14	7030-014	B2MR19	529
S210089-15	7030-015	B2MR26	1570
S210089-16	7030-016	B2MR46	U
S210089-17	7030-017	B2MR47	U
S210089-18	7030-018	B2MR56	U
S210089-19	7030-019	B2MR62	U
S210089-20	7030-020	B2MR68	U
S210089-21	7030-021	Lab Control Sample	ok
S210089-22	7030-022	Method Blank	U
S210089-23	7030-023	Duplicate (S210089-01)	ok
S210089-24	7030-024	Spike (S210089-02)	ok X

Nominal values and limits from method RDLs (pCi/L) 200

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id EBERLINE
Protocol CHPRC
Version Ver 1.0
Form DVD-LMS
Version 3.06
Report date 12/05/12

DECEMBER 12, 2012
EBERLINE ANALYTICAL-RICHMOND

SAMPLE DELIVERY GROUP H4755

Test C Matrix WATER
 SDG 7030
 Contact Joseph Verville

LAB METHOD SUMMARY

CARBON 14 IN WATER

LIQUID SCINTILLATION COUNTING

Client Hanford
 Contract No. 33677
 Contract SDG H4755

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-				
SAMPLE ID	TEST	FIX	CLIENT	SAMPLE ID	pCi/L	L	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7733-151			2σ prep error 10.0 %			Reference Lab Notebook 7733			pg.151								
S210089-01			B2MPL1		55.1	0.0300			100		50		15	11/13/12	11/13	LSC-006	
S210089-02			B2MPM4		55.5	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-03			B2MPN0		55.2	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-04			B2MPN6		54.1	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-05			B2MPP0		54.3	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-06			B2MPR1		54.9	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-07			B2MPR7		53.6	0.0300			100		50		15	11/13/12	11/13	LSC-006	
S210089-08			B2MPT8		53.9	0.0300			100		50		18	11/13/12	11/13	LSC-006	
S210089-09			B2MPV4		55.1	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-10			B2MPW5		55.4	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-11			B2MPX1		54.9	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-12			B2MR08		51.4	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-13			B2MR09		53.7	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-14			B2MR19		51.8	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-15			B2MR26		54.6	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-16			B2MR46		54.6	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-17			B2MR47		52.9	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-18			B2MR56		53.8	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-19			B2MR62		53.4	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-20			B2MR68		52.6	0.0300			100		50		19	11/13/12	11/13	LSC-006	
S210089-21			Lab Control Sample		56.4	0.0300			100		50			11/13/12	11/13	LSC-006	
S210089-22			Method Blank		55.4	0.0300			100		50			11/13/12	11/13	LSC-006	
S210089-23			Duplicate (S210089-01)		54.5	0.0300			100		50		15	11/13/12	11/13	LSC-006	
S210089-24			Spike (S210089-02)		79.8	<u>0.0200</u>			100		50		19	11/13/12	11/13	LSC-006	
Nominal values and limits from method					200	0.0300					50			180			

PROCEDURES REFERENCE C14_CHEM_LSC
 CP-241 Carbon-14 in Aqueous Samples, rev 8

AVERAGES ± 2 SD MDA 55.3 ± 10.7
 FOR 24 SAMPLES YIELD 100 ± 0

Lab id EBRLNE
 Protocol CHPRC
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 12/05/12

DECEMBER 12, 2012

EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

REPORT GUIDE

Client Hanford
Contract No. 33677
Case no SDG_H4755

SAMPLE SUMMARY

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

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

The following notes apply to these reports:

- * LAB SAMPLE ID is the lab's primary identification for a sample.
- * DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.
- * CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.
- * QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

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

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

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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

REPORT GUIDE

Client Hanford
Contract No. 33677
Case no SDG H4755

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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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

REPORT GUIDE

Client Hanford
Contract No. 33677
Case no SDG_H4755

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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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

REPORT GUIDE

Client Hanford
Contract No. 33677
Case no SDG_H4755

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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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

GUIDE, cont.

Client Hanford
Contract No. 33677
Case no SDG_H4755

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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SUMMARY DATA SECTION

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SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

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Client Hanford
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Case no SDG_H4755

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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SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

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Client Hanford
Contract No. 33677
Case no SDG_H4755

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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SUMMARY DATA SECTION

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Lab id EBRLNE
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EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030

Contact Joseph Verville

REPORT GUIDE

Client Hanford

Contract No. 33677

Case no SDG_H4755

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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SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

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Client Hanford
Contract No. 33677
Case no SDG_H4755

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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SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

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

REPORT GUIDES

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SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

Client Hanford
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GUIDE, cont.

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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Version Ver 1.0
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SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

REPORT GUIDE

Client Hanford
Contract No. 33677
Case no SDG_H4755

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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SUMMARY DATA SECTION

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SDG 7030
Contact Joseph Verville

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Client Hanford
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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.
- * Preparation 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.

REPORT GUIDES

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SUMMARY DATA SECTION

Page 48

Lab id EBRLNE
Protocol CHPRC
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/05/12

DECEMBER 12, 2012

EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

GUIDE, cont.

Client Hanford
Contract No. 33677
Case no SDG_H4755

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

REPORT GUIDES

Page 14

SUMMARY DATA SECTION

Page 49

Lab id EBRLNE
Protocol CHPRC
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/05/12

DECEMBER 12, 2012

EBERLINE ANALYTICAL - RICHMOND

SAMPLE DELIVERY GROUP H4755

SDG 7030
Contact Joseph Verville

GUIDE, cont.

Client Hanford
Contract No. 33677
Case no SDG_H4755

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.

REPORT GUIDES

Page 15

SUMMARY DATA SECTION

Page 50

Lab id EBRLNE
Protocol CHPRC
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 12/05/12

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #

I13-002-005

Page 1 of 1

Collector	Robert Crow	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	I13-002	Sampling Origin	Hanford Site	Purchase Order/Charge Code	30007IES20
Project Title	100KR4(1) NOVEMBER 2012	Logbook No.	HNF-N-50636 / 30	Ice Chest No.	6WS-293
Shipped To (Lab)	Eberline Services	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	793952429513
Protocol	CERCLA	Priority:	30 Days	Offsite Property No.	

POSSIBLE SAMPLE HAZARDS/REMARKS
 ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 100 Area Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 401647.
 FY12 and FY13 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MPL1	N	W	10-29-12	1014	1x20-mL P	Activity Scan	6 Months	None
B2MPL1	N	W			1x125-mL G/P	C14_CHEM_LSC: Carbon-14(1)	6 Months	None

Relinquished By Robert Crow	Print RCrow	Sign	Date/Time OCT 29 2012 1300	Received By MA White CHPRC	Print Malyshin	Sign	Date/Time OCT 29 2012 1300	Matrix *
Relinquished By MA White CHPRC	Print Malyshin	Sign FEDEX	Date/Time OCT 29 2012 1310	Received By FEDEX	Print	Sign	Date/Time OCT 29 2012 0930	S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By			Date/Time	Received By			Date/Time	

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Date/Time

Disposed By

FINAL SAMPLE DISPOSITION

CH2M Hill Plateau Remediation Company		C.O.C.# I13-002-006	
RJ Grow CHPRC		Page 1 of 1	
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST H4755 (7030)			
Collector	Contact/Requester	Telephone No.	376-4650
SAF No.	Sampling Origin	Purchase Order/Charge Code	30007IES20
Project Title	Logbook No.	Ice Chest No.	GWS-293
Shipped To (Lab)	Method of Shipment	Bill of Lading/Air Bill No.	793952429513
Protocol	Priority: 30 Days	Offsite Property No.	
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647. FY12 and FY13 samples cannot be in the same SDG.	
Sample No.	Filter	* Date	Time
B2MPM4	N	10-25-12	0946
B2MPM4	N	10-25-12	0946
No/Type Container	Sample Analysis	Holding Time	Preservative
1x20-mL P	Activity Scan	6 Months	None
1x125-mL G/P	C14_CHEM_LSC: Carbon-14(1)	6 Months	None

Relinquished By RJ Grow CHPRC	Print R Crow	Sign	Received By SSU-1	Print	Sign	Date/Time OCT 25 2012 1343	Matrix *
Relinquished By 66 RJ Grow CHPRC	Print RJ Grow	Sign	Received By MA White CHPRC	Print MA White	Sign	Date/Time OCT 29 2012 0900	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By 75 RJ Grow CHPRC	Print RJ Grow	Sign	Received By FEDEX	Print FEDEX	Sign	Date/Time OCT 29 2012 1400	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vegetation X = Other
Relinquished By	Print	Sign	Received By PF. KATAVSTAN	Print PF. KATAVSTAN	Sign	Date/Time 10/30/12 0930	
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time	

CH2MHill Plateau Remediation Company		C.O.C.# 113-002-008	
H4755 (7030)		Page 1 of 1	
Collector RJ Crow CHPRC	Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	
SAF No. 113-002	Sampling Origin Hanford Site	Purchase Order/Charge Code 30007IES20	
Project Title 100KR4(1) NOVEMBER 2012	Logbook No. HNF-N-506 48781	Ice Chest No. CWS-293	
Shipped To (Lab) Eberline Services	Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No. 793952429513	
Protocol CERCLA	Priority: 30 Days	Offsite Property No.	
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647. FY12 and FY13 samples cannot be in the same SDG.	
Sample No.	Filter *	Date	Time
B2MPN6	N	10-25-12	1009
B2MPN6	N	10-25-12	1009
No/Type Container	Activity Scan	Sample Analysis	Holding Time
1x20-mL P	Activity Scan	C14_CHEM_LSC: Carbon-14(1)	6 Months
1x125-mL GIP			6 Months
		Preservative	
		None	
		None	
		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Relinquished By RJ Crow CHPRC	Print R Crow	Sign	Date 10/25/2012	Time 1009	No/Type Container 1x20-mL P	Activity Scan	Sample Analysis C14_CHEM_LSC: Carbon-14(1)	Holding Time 6 Months	Preservative None
Relinquished By 880	Print	Sign	Date OCT 25 2012	Time	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
Relinquished By 751	Print	Sign	Date OCT 29 2012	Time 0900	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
Relinquished By	Print	Sign	Date OCT 29 2012	Time 1400	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
Received By SSU-1	Print	Sign	Date OCT 25 2012	Time	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
Received By MA White	Print	Sign	Date OCT 29 2012	Time 0900	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
Received By CHPRC	Print	Sign	Date OCT 29 2012	Time 1400	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
Received By FEDEX	Print	Sign	Date OCT 29 2012	Time	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
Received By P. HUSTAWAN	Print	Sign	Date 10/20/12	Time 6570	No/Type Container	Activity Scan	Sample Analysis	Holding Time	Preservative
Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Date/Time								
Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Date/Time								

CH2M Hill Plateau Remediation Company		C.O.C.# I13-002-009 Page 1 of 1	
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			
Collector RJ CROW CHPRC	Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	
SAF No. I13-002	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20	
Project Title 100KR4(1) NOVEMBER 2012	Logbook No. HNF-N-506 48181	Ice Chest No. GLWS-293	
Shipped To (Lab) Eberline Services	Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No. 793952429513	
Protocol CERCLA	Priority: 30 Days	Offsite Property No.	
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647. FY12 and FY13 samples cannot be in the same SDG.	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Sample No.	Filter	Date	Time
B2MPP0	N	10-25-12	0906
B2MPP0	N	10-25-12	0906
No/Type Container	Activity Scan	Sample Analysis	Holding Time
1x20-mL P	C14_CHEM_LSC: Carbon-14(1)		6 Months
			6 Months
			Preservative
			None
			None

Relinquished By RJ CROW CHPRC	Print RCrow	Sign	Date/Time OCT 25 2012 1341	Received By SSU-1	Print	Sign	Date/Time OCT 25 2012 1341	Matrix *
Relinquished By MA WHITE CHPRC	Print MA White	Sign	Date/Time OCT 29 2012 0900	Received By CHPRC	Print MA White	Sign	Date/Time OCT 29 2012 0900	S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By MA WHITE CHPRC	Print MA White	Sign	Date/Time OCT 29 2012 1400	Received By FEDEX	Print	Sign	Date/Time OCT 29 2012 0900	
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Date/Time		Date/Time		Date/Time	

CH2M Hill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 H4755 (7030)

C.O.C.# **I13-002-011**
 Page 1 of 1

Collector: **Robert Crow**
 Contact/Requester: **Karen Waters-Husted**
 Telephone No.: **376-4650**

SAF No.: **I13-002**
 Sampling Origin: **Hanford Site**
 Purchase Order/Charge Code: **30007IES20**

Project Title: **100KR4(1) NOVEMBER 2012**
 Logbook No.: **HNF-N-506 30/30**
 Ice Chest No.: **6WS-293**

Shipped To (Lab): **Eberline Services**
 Method of Shipment: **Commercial Carrier**
 Bill of Lading/Air Bill No.: **793952429513**

Protocol: **CERCLA**
 Priority: **30 Days**
 Priority: **PRIORITY**
 Offsite Property No.:

POSSIBLE SAMPLE HAZARDS/REMARKS
 ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time:
 100 Area Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 401647.
 FY12 and FY13 samples cannot be in the same SDG.

Total Activity Exemption: Yes No

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MPR7	N	W	10-29-12	1216	1x20-mL P	Activity Scan	6 Months	None
B2MPR7	N	W	✓	✓	1x125-mL G/P	C14_CHEM_LSC: Carbon-14(1)	6 Months	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Relinquished By: Robert Crow	R Crow		OCT 29 2012 1300	Received By: MA White	MA White		OCT 29 2012 1300	S = Soil, DS = Drum Solids SE = Sediment, DL = Drum Liquids SO = Solid, T = Tissue SL = Sludge, WI = Wipe W = Water, L = Liquid O = Oil, V = Vegetation A = Air, X = Other
Relinquished By: MA White	MA White		OCT 29 2012 1310	Received By: FEDEX	FEDEX			
Relinquished By: MA White	MA White		OCT 29 2012 1310	Received By: MA White	MA White		OCT 29 2012 0930	
Relinquished By:				Received By:				

CH2MHill Plateau Remediation Company		C.O.C.# I13-002-013 Page 1 of 1	
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			
Collector	RJ Crow CHPRC	Contact/Requester	Karen Waters-Husted
SAF No.	I13-002	Sampling Origin	Hanford Site
Project Title	100KR4(1) NOVEMBER 2012	Logbook No.	HNF-N-506 481 81
Shipped To (Lab)	Eberline Services	Method of Shipment	Commercial Carrier
Protocol	CERCLA	Priority:	30 Days PRIORITY
POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647. FY12 and FY13 samples cannot be in the same SDG.	
Sample No.	Filter	Date	Time
B2MPV4	N	10-25-12	1132
B2MPV4	N	10-25-12	1132
No/Type Container	1x20-mL P	Activity Scan	C14_CHEM_LSC: Carbon-14(1)
Holding Time	6 Months	Sample Analysis	Preservative
	6 Months		None
	6 Months		None
Telephone No.		376-4650	
Purchase Order/Charge Code		300071ES20	
Ice Cites No.		GWS-293	
Bill of Lading/Air Bill No.		793952429513	
Offsite Property No.			
Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			

Relinquished By	Print	Sign	Date/Time	1350	Received By	Print	Sign	Date/Time	1350
RJ Crow	R Crow		OCT 25 2012		SSU-1			OCT 25 2012	
Relinquished By	Print	Sign	Date/Time	0900	Received By	Print	Sign	Date/Time	0900
MA White	MA White		OCT 29 2012		CHPRC	malwhite		OCT 29 2012	
Relinquished By	Print	Sign	Date/Time	1400	Received By	Print	Sign	Date/Time	0930
CHPRC	MA White	MA White	OCT 29 2012		FEDEX				
Relinquished By	Print	Sign	Date/Time		Received By	Print	Sign	Date/Time	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		C.O.C. # I13-002-014
Collector L.D. Wall CHPRC		Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	Page 1 of 1
SAF No. I13-002	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20		
Project Title 100KR4(1) NOVEMBER 2012	Logbook No. HNF-N-506 49/69	Ice Chest No. 6WS-293		
Shipped To (Lab) Eberline Services	Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No. 793952429513		
Protocol CERCLA	Priority: 30 Days	Offsite Property No.		

POSSIBLE SAMPLE HAZARDS/REMARKS
 *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 3400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 100 Area Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCP is 401647.
 FY12 and FY13 samples cannot be in the same SDG.

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MPW5	N	10/25/12	1322	1x20-mL P	Activity Scan	6 Months	None
B2MPW5	N	↓	↓	1x125-mL G/P	C14_CHEM_LSC: Carbon-14(1)	6 Months	None

Relinquished By L.D. Wall CHPRC	Print SSU#	Signature [Signature]	Date/Time OCT 25 2012 1500	Received By SSU#	Print [Signature]	Signature [Signature]	Date/Time OCT 25 2012 1500	Matrix *
Relinquished By SSU-1	Print MA White	Signature [Signature]	Date/Time OCT 29 2012 0900	Received By MA White	Print [Signature]	Signature [Signature]	Date/Time OCT 29 2012 0900	S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By MA White CHPRC	Print FEDEX	Signature [Signature]	Date/Time OCT 29 2012 1400	Received By FEDEX	Print [Signature]	Signature [Signature]	Date/Time OCT 29 2012 1400	
Relinquished By [Signature]	Print [Signature]	Signature [Signature]	Date/Time [Signature]	Received By [Signature]	Print [Signature]	Signature [Signature]	Date/Time [Signature]	

CH2MHill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
H4755 (7030)
 C.O.C.# **I13-002-015**
 Page 1 of 1

Collector: **Mizi White** Telephone No. **376-4650**
 SAF No. **I13-002** Purchase Order/Charge Code **300071ES20**
 Project Title **100KR4(1) NOVEMBER 2012** Logbook No. **HNF-N-50651/30**
 Shipped To (Lab) **Eberline Services** Method of Shipment **Commercial Carrier**
 Protocol **CERCLA** Priority: **30 Days** **PRIORITY** Offsite Property No. **6WS-293**
Bill of Lading/Air Bill No. 793952429513

POSSIBLE SAMPLE HAZARDS/REMARKS
 ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)
SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 100 Area Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 401647.
 FY12 and FY13 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MPX1	N	W	10-25-12	0815	1x20-mL P	Activity Scan	6 Months	None
B2MPX1	N	W	↓	↓	1x125-mL G/P	C14_CHEM_LSC: Carbon-14(1)	6 Months	None

92 10-25-12
 1015

Relinquished By Mizi White	Print <i>Mizi White</i>	Sign <i>Mizi White</i>	Date/Time OCT 25 2012	1400	Received By SSU-1	Print MA White	Sign CHPRC	Date/Time OCT 29 2012	0900
Relinquished By SSU-1	Print MA White	Sign CHPRC	Date/Time OCT 29 2012	0900	Received By FEDEX	Print MA White	Sign CHPRC	Date/Time OCT 29 2012	0900
Relinquished By MA White	Print MA White	Sign CHPRC	Date/Time OCT 29 2012	1400	Received By FEDEX	Print MA White	Sign CHPRC	Date/Time OCT 29 2012	1400
Relinquished By CHPRC	Print MA White	Sign CHPRC	Date/Time OCT 29 2012	1400	Received By FEDEX	Print MA White	Sign CHPRC	Date/Time OCT 29 2012	1400

Disposal Method (e.g., Return to customer, per lab procedure, used in process)
 Disposed By: *REWATKATKATAN* Date/Time: **10/20/12 6570**

CH2MHill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 H4755 (7030)
 C.O.C.# I13-002-016
 Page 1 of 1

Collector: **Miltz White**
 Contact/Requester: **Karen Waters-Husted**
 Telephone No.: **376-4650**
 SAF No.: **I13-002**
 Sampling Origin: **Hanford Site**
 Purchase Order/Charge Code: **30007IES20**
 Project Title: **100KR4(1) NOVEMBER 2012**
 Logbook No.: **HNF-N-506, 51/30**
 Ice Chest No.: **CWS-293**
 Shipped To (Lab): **Eberline Services**
 Method of Shipment: **Commercial Carrier**
 Bill of Lading/Air Bill No.: **793952429513**
 Protocol: **CERCLA**
 Priority: **30 Days**
 Priority Property No.: **PRIORITY**

POSSIBLE SAMPLE HAZARDS/REMARKS
 ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)
SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 100 Area Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 401647.
 FY12 and FY13 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MR08	N	W	10-25-12	1230	1x20-mL P	Activity Scan	6 Months	None
B2MR08	N	W	✓	✓	1x125-mL G/P	C14_CHEM_LSC: Carbon-14(1)	6 Months	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Miltz White	<i>Miltz White</i>		OCT 25 2012 1400	SSU-1			OCT 25 2012 1400	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
660	<i>Miltz White</i>		OCT 29 2012 0900	MA White CHPRC	<i>Miltz White</i>		OCT 29 2012 0900	
75	<i>Miltz White</i>		OCT 29 2012 1400	FEDEX				
				<i>FEDEX</i>				
				<i>FEDEX</i>				
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Date/Time	Disposed By		Date/Time		
				<i>FEDEX</i>				

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST H4755 (7030)		C.O.C.# I13-002-017
Collector Milzi White	Contact/Requester Karen Waters-Husted	Telephone No. 376-4650	Page 1 of 1	
SAF No. I13-002	Sampling Origin Hanford Site	Purchase Order/Charge Code 30007IES20	Ice Chest No. CWS-293	
Project Title 100KR4(1) NOVEMBER 2012	Logbook No. HNF-N-506 51 / 30	Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No 7939524 29513	
Shipped To (Lab) Eberline Services	Priority: 30 Days	Priority: PRIORITY	Offsite Property No.	
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS Hold Time 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647. FY12 and FY13 samples cannot be in the same SDG.		
Sample No. B2MR09	Filter * N	Date 10-25-12	Time 1230	No/Type Container 1x20-mL P
Sample No. B2MR09	Filter * N	Date 10-25-12	Time 1230	No/Type Container 1x125-mL G/P
Sample Analysis Activity Scan		Holding Time 6 Months		Preservative None
Sample Analysis C14-CHEM_LSC: Carbon-14(1)		Holding Time 6 Months		Preservative None

Relinquished By Milzi White	Print milziwhite	Sign [Signature]	Date/Time OCT 25 2012 1400	Received By SSU-1	Print [Signature]	Sign [Signature]	Date/Time OCT 25 2012 1400	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
Relinquished By MA White	Print malwhite	Sign [Signature]	Date/Time OCT 29 2012 0900	Received By CHPRC	Print [Signature]	Sign [Signature]	Date/Time OCT 29 2012 0900		
Relinquished By CHPRC	Print malwhite	Sign [Signature]	Date/Time OCT 29 2012 1400	Received By FEDEX	Print [Signature]	Sign [Signature]	Date/Time OCT 29 2012 1400		
Relinquished By [Signature]	Print [Signature]	Sign [Signature]	Date/Time OCT 29 2012 1400	Received By [Signature]	Print [Signature]	Sign [Signature]	Date/Time OCT 29 2012 1400		
FINAL SAMPLE DISPOSITION		Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By [Signature]		Date/Time OCT 29 2012 0530		

CH2M Hill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
H4755 (7030)
 C.O.C.# **I13-002-018**
 Page 1 of 1

Collector: **Mizzi White**
 Contact/Requester: **Karen Waters-Husted**
 Telephone No.: **376-4650**
 SAF No.: **I13-002**
 Sampling Origin: **Hanford Site**
 Purchase Order/Charge Code: **300071ES20**
 Project Title: **100KR4(1) NOVEMBER 2012**
 Logbook No.: **HNF-N-506 51130**
 Ice Chest No.: **GWS-293**
 Shipped To (Lab): **Eberline Services**
 Method of Shipment: **Commercial Carrier**
 Bill of Lading/Air Bill No.: **793952429513**
 Protocol: **CERCLA**
 Priority: **30 Days**
 Offsite Property No.: **PRIORITY**

POSSIBLE SAMPLE HAZARDS/REMARKS
 100 Area Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 401647.
 FY12 and FY13 samples cannot be in the same SDG.
 SPECIAL INSTRUCTIONS Hold Time
 Total Activity Exemption: Yes No

Sample No.	Filter	* Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B2MR19	N	10-25-12	1156	1x20-mL P	Activity Scan	6 Months	None
B2MR19	N	↓	↓	1x125-mL G/P	C14_CHEM_LSC: Carbon-14(1)	6 Months	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Mizzi White	<i>Mizzi White</i>		OCT 25 2012 1400	SSU-1			OCT 25 2012 1400	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
SSU-1			OCT 29 2012 0900	MA White	<i>MA White</i>		OCT 29 2012 0900	
MA White	<i>MA White</i>		OCT 29 2012 1400	CHPRC	<i>CHPRC</i>		OCT 29 2012 0900	
CHPRC	<i>CHPRC</i>		OCT 29 2012 1400	FEDEX				
Relinquished By				FEDEX	<i>FEDEX</i>			
Relinquished By				MA White	<i>MA White</i>			
Relinquished By				FEDEX	<i>FEDEX</i>			

FINAL SAMPLE DISPOSITION
 Disposal Method (e.g., Return to customer, per lab procedure, used in process)
 Disposed By: *MA White*
 Date/Time: *10/20/12 0530*

CH2M Hill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C.# **I13-002-019**
 Page 1 of 1

Collector: Mital White
Contact/Requester: Karen Waters-Husted
Telephone No.: 376-4650
SAF No.: I13-002
Sampling Origin: Hanford Site
Purchase Order/Charge Code: 30007IES20
Project Title: 100KR4(1) NOVEMBER 2012
Logbook No.: HNF-N-506.51/3D
Ice Chest No.: CWS-293
Shipped To (Lab): Eberline Services
Method of Shipment: Commercial Carrier
Bill of Lading/Air Bill No.: 793952429513
Protocol: CERCLA
Priority: 30 Days
Offsite Property No.:

POSSIBLE SAMPLE HAZARDS/REMARKS
 ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)
SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 100 Area Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 401647.
 FY12 and FY13 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MR26	N	W	10-25-12	1120	1x20-mL P	Activity Scan	6 Months	None
B2MR26	N	W	↓	↓	1x125-mL G/P	C14_CHEM_LSC: Carbon-14(1)	6 Months	None

Relinquished By Mital White	Print <i>Mital White</i>	Sign <i>Mital White</i>	Date OCT 25 2012	Time 1400	Received By SSU-1	Print	Sign	Date/Time OCT 25 2012	Time 1400	Matrix *
Relinquished By SSU-1	Print	Sign	Date OCT 29 2012	Time 0900	Received By MA White	Print	Sign	Date/Time OCT 29 2012	Time 0900	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By MA White	Print	Sign	Date OCT 29 2012	Time 1400	Received By CHPRC	Print	Sign	Date/Time OCT 29 2012	Time 1400	DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wine L = Liquid V = Vegetation X = Other
Relinquished By CHPRC	Print	Sign	Date OCT 29 2012	Time 1400	Received By FEDEX	Print	Sign	Date/Time	Time	
Relinquished By	Print	Sign	Date	Time	Received By	Print	Sign	Date/Time	Time	
FINAL SAMPLE DISPOSITION	Disposed Method (e.g., Return to customer, per lab procedure, used in process)								Date/Time	

CH2MHill Plateau Remediation Company		C.O.C.# I13-002-022	
Collector RJ CROW CHPRC		Contact/Requester Karen Waters-Husted	Telephone No. 376-4650
SAF No. I13-002		Sampling Origin Hanford Site	Purchase Order/Charge Code 300071ES20
Project Title 100KR4(1) NOVEMBER 2012		Logbook No. HNF-N-506 481 81	Ice Chest No. 6205-293
Shipped To (Lab) Eberline Services		Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No. 793952429513
Protocol CERCLA		Priority: 30 Days	Offsite Property No.
POSSIBLE SAMPLE HAZARDS/REMARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		SPECIAL INSTRUCTIONS 100 Area Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 401647. FY12 and FY13 samples cannot be in the same SDG.	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MR46	N	W	10-25-12	1156	1x20-mL P	Activity Scan	6 Months	None
B2MR46	N	W	10-25-12	1156	1x125-mL G/P	C14_CHEM_LSC: Carbon-14(1)	6 Months	None

Relinquished By RJ CROW CHPRC	Print R Crow	Sign	Date/Time OCT 25 2012 1353	Received By SSU-1	Sign	Print	Date/Time OCT 25 2012 1353
Relinquished By MA White	Print MA White	Sign	Date/Time OCT 29 2012 0900	Received By CHPRC	Sign	Print Ma White	Date/Time OCT 29 2012 0900
Relinquished By CHPRC	Print MA White	Sign	Date/Time OCT 29 2012 1400	Received By FEDEX	Sign	Print	Date/Time OCT 29 2012 0900
Relinquished By	Print	Sign	Date/Time	Received By FEDEX	Sign	Print	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By FEDEX	Sign	Print	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By FEDEX	Sign	Print	Date/Time

CH2MHill Plateau Remediation Company
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 C.O.C. # **I13-002-024**
 Page 1 of 1

Collector: RJ CROW
CHPRC
SAF No.: I13-002
Project Title: 100KR4(1) NOVEMBER 2012
Shipped To (Lab): Eberline Services
Protocol: CERCLA

Contact/Requester: Karen Waters-Husted
Telephone No.: 376-4650
Sampling Origin: Hanford Site
Purchase Order/Charge Code: 300071ES20
Logbook No.: HNF-N-506 48181
Ice Chest No.: GWS-293
Method of Shipment: Commercial Carrier
Bill of Lading/Air Bill No.: 793952429513
Priority: 30 Days **PRIORITY**
Offsite Property No.:

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 100 Area Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 401647.
 FY12 and FY13 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MR56	N	W	10-25-12	1108	1x20-mL P	Activity Scan	6 Months	None
B2MR56	N	W	10-25-12	1108	1x125-mL G/P	C14_CHEM_LSC: Carbon-14(1)	6 Months	None

POSSIBLE SAMPLE HAZARDS/REMARKS
 ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
RJ CROW CHPRC		R CROW	OCT 25 2012 1348	SSU-1			OCT 25 2012 1348	S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
MA White CHPRC		MA White	OCT 29 2012 0900	CHPRC			OCT 29 2012 0900	
MA White CHPRC		MA White	OCT 29 2012 1400	FEDEX				
PF AUSTIN		PF AUSTIN	10/20/12 5370					

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 14755 (7030)

C.O.C.# **I13-002-025**
 Page 1 of 1

Collector: **L.D. Wall CHPRC** Telephone No. 376-4650
 SAF No. I13-002 Purchase Order/Charge Code 300071ES20
 Project Title 100KR4(1) NOVEMBER 2012 Logbook No. HNF-N-506 49169
 Shipped To (Lab) Eberline Services Method of Shipment Commercial Carrier
 Protocol CERCLA Priority: 30 Days **PRIORITY**

POSSIBLE SAMPLE HAZARDS/REMARKS
 ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes No
 100 Area Generator Knowledge Information Form applies.
 The CACN for all analytical work at WSCF is 401647.
 FY12 and FY13 samples cannot be in the same SDG.

Sample No.	Filter	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MR62	N	10/25/12	1339	1x20-mL P	Activity Scan	6 Months	None
B2MR62	N	↓	↓	1x125-mL G/P	C14_CHEM_LSC: Carbon-14(1)	6 Months	None

Relinquished By	Date/Time	Received By	Date/Time	Print	Sign	Date/Time	Matrix *
L.D. Wall CHPRC	OCT 25 2012 1500	SSU#1	OCT 25 2012 1500				S = Soil DS = Drum Solids SE = Sediment DL = Drum Liquids SO = Solid T = Tissue SL = Sludge WI = Wipe W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
MA White CHPRC	OCT 29 2012 0900	MA White CHPRC	OCT 29 2012 0900				
MA White CHPRC	OCT 29 2012 1400	FEDEX					
MA White CHPRC	OCT 29 2012 1400	FEDEX					
Relinquished By	Date/Time	Received By	Date/Time	Print	Sign	Date/Time	Matrix *
MA White CHPRC	OCT 29 2012 1400	MA White CHPRC	OCT 29 2012 0900				
Relinquished By	Date/Time	Received By	Date/Time	Print	Sign	Date/Time	Matrix *
MA White CHPRC	OCT 29 2012 1400	MA White CHPRC	OCT 29 2012 0900				

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

FINAL SAMPLE DISPOSITION

PRINTED O 10/9/2012

A-6004-842 (REV 2)



RICHMOND, CA LABORATORY
SAMPLE RECEIPT CHECKLIST

Client: CAPRC City MCHAND State WA
 Date/Time received 10/20/12 09:30 CoC No. I13-002 (005-019), (022-027), (029-038), 041, 045, 046, 049, 050, 051, 052, 066
 Container I.D. No. GWS-293 Requested TAT (Days) 30 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: 20 Wet [] Dry []
6. Number of samples in shipping container: 39 Sample Matrix W
7. Number of containers per sample: 2 (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 N/A Preservative _____
13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____
15. Inspected by [Signature] Date: 10/20/12 Time: 11:30

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wipe	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	wipe
<u>See Samples</u>	<u>150</u>						

Ion Chamber Ser. No. _____ Calibration date _____
 Alpha Meter Ser. No. _____ Calibration date _____
 Beta/Gamma Meter Ser. No. 100482 Calibration date 06 DEC 11