



**EBERLINE**  
SERVICES

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July 15, 2011

1215399

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

Reference: **P.O. #33677**  
**Eberline Analytical S1-07-019-7732, SDG H4622**

Dear Mr. Neely:

Enclosed is a data report for eleven solid (soil) samples designated under SAF No. F11-127 received at Eberline Analytical on July 6, 2011. The samples were analyzed according to the accompanying chain-of-custody documents.

Please call if you have any questions concerning this report.

Sincerely,

N. Joseph Verville  
Client Services Manager

NJV/

Enclosure: Data Package



**1.0 GENERAL**

CH2M Hill Plateau Remediation Company (CHPRC) Sample Delivery Group H4622 was composed of eleven solid (soil) samples designated under SAF No. F11-127 with a Project Designation of: ARRA Verification Sampling of the 216-S-26 Waste Site and 200-W-148-PL.

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 Mid-level Tritium Analysis**

No problems were encountered during the course of the analyses.

**3.0 Case Narrative Certification Statement**

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

  
\_\_\_\_\_  
N. Joseph Verville  
Client Services Manager

7/15/11  
\_\_\_\_\_  
Date

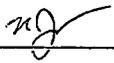
EBERLINE ANALYTICAL / RICHMOND  
SAMPLE DELIVERY GROUP H4622

SDG 7732  
Contact N. Joseph Verville

Client CHPRC  
Contract No. 33677  
Case no SDG\_H4622

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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 07/14/11

SDG 7732  
 Contact N. Joseph Verville

## REPORT GUIDE

Client CHPRC  
 Contract No. 33677  
 Case no SDG H4622

## 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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SDG 7732  
Contact N. Joseph Verville

GUIDE, cont.

Client CHPRC  
Contract No. 33677  
Case no SDG H4622

## 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.

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SAMPLE DELIVERY GROUP H4622

SDG 7732  
 Contact N. Joseph Verville

Client CHPRC  
 Contract No. 33677  
 Case no SDG H4622

LAB SAMPLE SUMMARY

LAB					CHAIN OF		
SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CUSTODY	COLLECTED
S107019-01	B2FDR1	216-S-26 RV 1-Resample	SOLID		F11-127	F11-127-079	06/29/11 09:25
S107019-02	B2FDR2	216-S-26 RV 2-Resample	SOLID		F11-127	F11-127-080	06/29/11 09:21
S107019-03	B2FDR3	216-S-26 RV 3-Resample	SOLID		F11-127	F11-127-081	06/29/11 09:16
S107019-04	B2FDR4	216-S-26 RV 4-Resample	SOLID		F11-127	F11-127-082	06/29/11 09:12
S107019-05	B2FDR5	216-S-26 RV 5-Resample	SOLID		F11-127	F11-127-083	06/29/11 09:15
S107019-06	B2FDR6	216-S-26 RV 5 Dup-Resamp	SOLID		F11-127	F11-127-084	06/29/11 09:15
S107019-07	B2FDR7	216-S-26 RV 6-Resample	SOLID		F11-127	F11-127-085	06/29/11 09:10
S107019-08	B2FDR8	216-S-26 RV 7-Resample	SOLID		F11-127	F11-127-086	06/29/11 09:03
S107019-09	B2FDR9	216-S-26 RV 8-Resample	SOLID		F11-127	F11-127-087	06/29/11 08:59
S107019-10	B2FDTO	200-W-148-PL RV 9-Rersmp	SOLID		F11-127	F11-127-088	06/29/11 09:02
S107019-11	B2FDTI	200-W-148-PL RV10-Rersmp	SOLID		F11-127	F11-127-089	06/29/11 08:58
S107019-12	Lab Control Sample		SOLID		F11-127		
S107019-13	Method Blank		SOLID		F11-127		
S107019-14	Duplicate (S107019-01)	216-S-26 RV 1-Resample	SOLID		F11-127		06/29/11 09:25

LAB SUMMARY

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 Protocol CHPRC  
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EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4622

QC SUMMARY

SDG 7732  
Contact N. Joseph Verville

Client CHPRC  
Contract No. 33677  
Case no SDG H4622

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
7732	F11-127-079	B2FDR1	SOLID	89.9	130 g		07/06/11 7	S107019-01		7732-001
	F11-127-080	B2FDR2	SOLID	93.2	132 g		07/06/11 7	S107019-02		7732-002
	F11-127-081	B2FDR3	SOLID	93.1	138 g		07/06/11 7	S107019-03		7732-003
	F11-127-082	B2FDR4	SOLID	93.3	133 g		07/06/11 7	S107019-04		7732-004
	F11-127-083	B2FDR5	SOLID	96.6	126 g		07/06/11 7	S107019-05		7732-005
	F11-127-084	B2FDR6	SOLID	96.5	139 g		07/06/11 7	S107019-06		7732-006
	F11-127-085	B2FDR7	SOLID	94.9	119 g		07/06/11 7	S107019-07		7732-007
	F11-127-086	B2FDR8	SOLID	95.3	148 g		07/06/11 7	S107019-08		7732-008
	F11-127-087	B2FDR9	SOLID	92.7	123 g		07/06/11 7	S107019-09		7732-009
	F11-127-088	B2FDT0	SOLID	95.5	130 g		07/06/11 7	S107019-10		7732-010
	F11-127-089	B2FDT1	SOLID	95.3	134 g		07/06/11 7	S107019-11		7732-011
		Method Blank	SOLID					S107019-13		7732-013
		Lab Control Sample	SOLID					S107019-12		7732-012
		Duplicate (S107019-01)	SOLID	89.9	130 g		07/06/11 7	S107019-14		7732-014

Lab id EBRLNE  
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EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4622

SDG 7732  
 Contact N. Joseph Verville

PREP BATCH SUMMARY

Client CHPRC  
 Contract No. 33677  
 Case no SDG H4622

TEST	MATRIX	METHOD	PREPARATION ERROR			PLANCHETS ANALYZED				QUALI-
			BATCH	2σ %	CLIENT MORE	RE	BLANK	LCS	DUP/ORIG	
Liquid Scintillation Counting										
H	SOLID	Tritium in Solids	7296-114	10.0	11		1	1		1/1

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

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SAMPLE DELIVERY GROUP H4622

SDG 7732  
 Contact N. Joseph Verville

LAB WORK SUMMARY

Client CHPRC  
 Contract No. 33677  
 Case no SDG H4622

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX	SUF-							
RECEIVED	CUSTODY	SAF No	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S107019-01	B2FDR1		7732-001	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	216-S-26 RV 1-Resample	SOLID								
07/06/11	F11-127-079	F11-127								
S107019-02	B2FDR2		7732-002	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	216-S-26 RV 2-Resample	SOLID								
07/06/11	F11-127-080	F11-127								
S107019-03	B2FDR3		7732-003	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	216-S-26 RV 3-Resample	SOLID								
07/06/11	F11-127-081	F11-127								
S107019-04	B2FDR4		7732-004	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	216-S-26 RV 4-Resample	SOLID								
07/06/11	F11-127-082	F11-127								
S107019-05	B2FDR5		7732-005	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	216-S-26 RV 5-Resample	SOLID								
07/06/11	F11-127-083	F11-127								
S107019-06	B2FDR6		7732-006	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	216-S-26 RV 5 Dup-Resamp	SOLID								
07/06/11	F11-127-084	F11-127								
S107019-07	B2FDR7		7732-007	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	216-S-26 RV 6-Resample	SOLID								
07/06/11	F11-127-085	F11-127								
S107019-08	B2FDR8		7732-008	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	216-S-26 RV 7-Resample	SOLID								
07/06/11	F11-127-086	F11-127								
S107019-09	B2FDR9		7732-009	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	216-S-26 RV 8-Resample	SOLID								
07/06/11	F11-127-087	F11-127								
S107019-10	B2FDT0		7732-010	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	200-W-148-PL RV 9-Rersmp	SOLID								
07/06/11	F11-127-088	F11-127								

WORK SUMMARY

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**EBERLINE ANALYTICAL/RICHMOND**

SAMPLE DELIVERY GROUP H4622

SDG 7732  
 Contact N. Joseph Verville

**WORK SUMMARY, cont.**

Client CHPRC  
 Contract No. 33677  
 Case no SDG H4622

LAB SAMPLE	CLIENT SAMPLE ID									
COLLECTED	LOCATION	MATRIX			SUP-					
RECEIVED	CUSTODY	SAF No	PLANCHET	TEST	FIX	ANALYZED	REVIEWED	BY	METHOD	
S107019-11	B2FDT1		7732-011	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	200-W-148-PL RV10-Rersmp	SOLID								
07/06/11	F11-127-089	F11-127								
S107019-12	Lab Control Sample		7732-012	H		07/14/11	07/14/11	BW	Tritium in Solids	
		SOLID								
		F11-127								
S107019-13	Method Blank		7732-013	H		07/13/11	07/14/11	BW	Tritium in Solids	
		SOLID								
		F11-127								
S107019-14	Duplicate (S107019-01)		7732-014	H		07/13/11	07/14/11	BW	Tritium in Solids	
06/29/11	216-S-26 RV 1-Resample	SOLID								
07/06/11		F11-127								

COUNTS OF TESTS BY SAMPLE TYPE											
TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
H	F11-127	Tritium in Solids	TRITIUM_COX_LSC	11			1	1	1		14
<b>TOTALS</b>				11			1	1	1		14

Lab id EBRLNE  
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SAMPLE DELIVERY GROUP H4622

7732-013

Method Blank

METHOD BLANK

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4622</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S107019-13</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7732-013</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>F11-127</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	-0.194	3.4	5.90	30.0	U	H

QC-BLANK #79037

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 H4622

7732-012

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S107019-12</u>	Client sample id <u>Lab Control Sample</u>	
Dept sample id <u>7732-012</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>F11-127</u>	

ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS TEST	ADDED pCi/g	2σ ERR pCi/g	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Tritium	265	14	7.81	30.0	H	275	11	96	83-117	80-120

QC-LCS #79036

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>07/14/11</u>

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4622

7732-014

B2FDR1

DUPLICATE

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S107019-14</u>	Lab sample id <u>S107019-01</u>	Client sample id <u>B2FDR1</u>
Dept sample id <u>7732-014</u>	Dept sample id <u>7732-001</u>	Location/Matrix <u>216-S-26 RV 1-Resample SOLID</u>
	Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 09:25 130 g</u>
% solids <u>89.9</u>	% solids <u>89.9</u>	Custody/SAF No <u>F11-127-079 F11-127</u>

ANALYTE	DUPLICATE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST	ORIGINAL pCi/g	2σ ERR (COUNT)	MDA pCi/g	QUALI- FIERS	RPD %	3σ TOT	DER σ
Tritium	28.4	6.2	8.32	30.0		H	22.7	5.9	8.28		22	55	1.2

QC-DUP#1 79038

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>
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EBERLINE ANALYTICAL / RICHMOND

SAMPLE DELIVERY GROUP H4622

7732-001

B2FDR1

DATA SHEET

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S107019-01</u>	Client sample id <u>B2FDR1</u>	
Dept sample id <u>7732-001</u>	Location/Matrix <u>216-S-26 RV 1-Resample</u>	<u>SOLID</u>
Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 09:25</u>	<u>130 g</u>
% solids <u>89.9</u>	Custody/SAF No <u>F11-127-079</u>	<u>F11-127</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	22.7	5.9	8.28	30.0		H

DATA SHEETS

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Lab id <u>EBRLNE</u>
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EBERLINE ANALYTICAL/RICHMOND  
 SAMPLE DELIVERY GROUP H4622

7732-002

B2FDR2

DATA SHEET

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S107019-02</u>	Client sample id <u>B2FDR2</u>	
Dept sample id <u>7732-002</u>	Location/Matrix <u>216-S-26 RV 2-Resample</u>	<u>SOLID</u>
Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 09:21</u>	<u>132 g</u>
% solids <u>93.2</u>	Custody/SAF No <u>F11-127-080</u>	<u>F11-127</u>

ANALYTE	CAS NO	RESULT pCi/g	2 $\sigma$ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	45.5	7.9	9.85	30.0		H

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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>07/14/11</u>

EBERLINE ANALYTICAL/RICHMOND  
 SAMPLE DELIVERY GROUP H4622

7732-003

B2FDR3

DATA SHEET

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S107019-03</u>	Client sample id <u>B2FDR3</u>	
Dept sample id <u>7732-003</u>	Location/Matrix <u>216-S-26 RV 3-Resample</u>	<u>SOLID</u>
Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 09:16</u>	<u>138 g</u>
% solids <u>93.1</u>	Custody/SAF No <u>F11-127-081</u>	<u>F11-127</u>

ANALYTE	CAS NO	RESULT pCi/g	2 $\sigma$ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	20.0	5.6	8.00	30.0		H

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
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Report date <u>07/14/11</u>

EBERLINE ANALYTICAL / RICHMOND  
 SAMPLE DELIVERY GROUP H4622

7732-004

B2FDR4

DATA SHEET

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S107019-04</u>	Client sample id <u>B2FDR4</u>	
Dept sample id <u>7732-004</u>	Location/Matrix <u>216-S-26 RV 4-Resample</u>	<u>SOLID</u>
Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 09:12</u>	<u>133 g</u>
% solids <u>93.3</u>	Custody/SAF No <u>F11-127-082</u>	<u>F11-127</u>

ANALYTE	CAS NO	RESULT pCi/g	2 $\sigma$ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	22.8	6.1	8.52	30.0		H

DATA SHEETS  
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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>07/14/11</u>

EBERLINE ANALYTICAL / RICHMOND  
 SAMPLE DELIVERY GROUP H4622

7732-005

B2FDR5

DATA SHEET

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S107019-05</u>	Client sample id <u>B2FDR5</u>	
Dept sample id <u>7732-005</u>	Location/Matrix <u>216-S-26 RV 5-Resample</u>	<u>SOLID</u>
Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 09:15</u>	<u>126 g</u>
% solids <u>96.6</u>	Custody/SAF No <u>F11-127-083</u>	<u>F11-127</u>

ANALYTE	CAS NO	RESULT pCi/g	2 $\sigma$ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	15.0	5.8	8.63	30.0		H

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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>07/14/11</u>

EBERLINE ANALYTICAL / RICHMOND  
 SAMPLE DELIVERY GROUP H4622

7732-006

B2FDR6

DATA SHEET

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S107019-06</u>	Client sample id <u>B2FDR6</u>	
Dept sample id <u>7732-006</u>	Location/Matrix <u>216-S-26 RV 5 Dup-Resamp</u>	<u>SOLID</u>
Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 09:15</u>	<u>139 g</u>
% solids <u>96.5</u>	Custody/SAF No <u>F11-127-084</u>	<u>F11-127</u>

ANALYTE	CAS NO	RESULT pCi/g	2 $\sigma$ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	6.75	5.3	8.57	30.0	U	H

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>07/14/11</u>

EBERLINE ANALYTICAL / RICHMOND  
SAMPLE DELIVERY GROUP H4622

7732-007

B2FDR7

DATA SHEET

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4622</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S107019-07</u>	Client sample id <u>B2FDR7</u>	
Dept sample id <u>7732-007</u>	Location/Matrix <u>216-S-26 RV 6-Resample</u>	<u>SOLID</u>
Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 09:10</u>	<u>119 g</u>
% solids <u>94.9</u>	Custody/SAF No <u>F11-127-085</u>	<u>F11-127</u>

ANALYTE	CAS NO	RESULT pCi/g	2 $\sigma$ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	44.4	7.7	9.65	30.0		H

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Lab id <u>EBRINE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>07/14/11</u>

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 SAMPLE DELIVERY GROUP H4622

7732-008

B2FDR8

DATA SHEET

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S107019-08</u>	Client sample id <u>B2FDR8</u>	
Dept sample id <u>7732-008</u>	Location/Matrix <u>216-S-26 RV 7-Resample</u>	<u>SOLID</u>
Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 09:03</u>	<u>148 g</u>
% solids <u>95.3</u>	Custody/SAF No <u>F11-127-086</u>	<u>F11-127</u>

ANALYTE	CAS NO	RESULT pCi/g	2 $\sigma$ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	34.4	6.8	8.92	30.0		H

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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>07/14/11</u>

EBERLINE ANALYTICAL / RICHMOND  
 SAMPLE DELIVERY GROUP H4622

7732-009

B2FDR9

DATA SHEET

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S107019-09</u>	Client sample id <u>B2FDR9</u>	
Dept sample id <u>7732-009</u>	Location/Matrix <u>216-S-26 RV 8-Resample</u>	<u>SOLID</u>
Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 08:59</u>	<u>123 g</u>
% solids <u>92.7</u>	Custody/SAF No <u>F11-127-087</u>	<u>F11-127</u>

ANALYTE	CAS NO	RESULT pCi/g	2 $\sigma$ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	54.2	7.8	9.10	30.0		H

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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>07/14/11</u>

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SAMPLE DELIVERY GROUP H4622

7732-010

B2FDT0

DATA SHEET

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S107019-10</u>	Client sample id <u>B2FDT0</u>	
Dept sample id <u>7732-010</u>	Location/Matrix <u>200-W-148-PL RV 9-Rersmp</u>	<u>SOLID</u>
Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 09:02</u>	<u>130 g</u>
% solids <u>95.5</u>	Custody/SAF No <u>F11-127-088</u>	<u>F11-127</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	49.0	7.3	8.77	30.0		H

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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>07/14/11</u>

EBERLINE ANALYTICAL / RICHMOND  
 SAMPLE DELIVERY GROUP H4622

7732-011

B2FDT1

DATA SHEET

SDG <u>7732</u>	Client/Case no <u>CHPRC</u>	<u>SDG_H4622</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S107019-11</u>	Client sample id <u>B2FDT1</u>	
Dept sample id <u>7732-011</u>	Location/Matrix <u>200-W-148-PL RV10-Rersmp</u>	<u>SOLID</u>
Received <u>07/06/11</u>	Collected/Weight <u>06/29/11 08:58</u>	<u>134 g</u>
% solids <u>95.3</u>	Custody/SAF No <u>F11-127-089</u>	<u>F11-127</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	26.5	6.5	9.00	30.0		H

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>07/14/11</u>

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4622

Client CHPRC

Contract No. 33677

Contract SDG H4622

LAB METHOD SUMMARY

TRITIUM IN SOLIDS

LIQUID SCINTILLATION COUNTING

Test H      Matrix SOLID  
 SDG 7732  
 Contact N. Joseph Verville

RESULTS

LAB	RAW	SUF-		
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Tritium
Preparation batch 7296-114				
S107019-01	7732-001	B2FDR1		22.7
S107019-02	7732-002	B2FDR2		45.5
S107019-03	7732-003	B2FDR3		20.0
S107019-04	7732-004	B2FDR4		22.8
S107019-05	7732-005	B2FDR5		15.0
S107019-06	7732-006	B2FDR6		U
S107019-07	7732-007	B2FDR7		44.4
S107019-08	7732-008	B2FDR8		34.4
S107019-09	7732-009	B2FDR9		54.2
S107019-10	7732-010	B2FDT0		49.0
S107019-11	7732-011	B2FDT1		26.5
S107019-12	7732-012	Lab Control Sample		ok
S107019-13	7732-013	Method Blank		U
S107019-14	7732-014	Duplicate (S107019-01)		ok

Nominal values and limits from method      RDLs (pCi/g)      30.0

METHOD SUMMARIES

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Lab id EBRLNE  
 Protocol CHPRC  
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 Version 3.06  
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SAMPLE DELIVERY GROUP H4622

Test H Matrix SOLID  
 SDG 7732  
 Contact N. Joseph Verville

LAB METHOD SUMMARY

TRITIUM IN SOLIDS

LIQUID SCINTILLATION COUNTING

Client CHPRC  
 Contract No. 33677  
 Contract SDG H4622

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-				
SAMPLE ID	TEST	FIX	CLIENT	SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	keV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7296-114			2σ prep error 10.0 %			Reference Lab Notebook 7296 pg. 114											
S107019-01			B2FDR1		8.28	0.227			100		50		14	07/13/11	07/13		LSC-005
S107019-02			B2FDR2		9.85	0.201			100		50		14	07/13/11	07/13		LSC-005
S107019-03			B2FDR3		8.00	0.231			100		50		14	07/13/11	07/13		LSC-005
S107019-04			B2FDR4		8.52	0.228			100		50		14	07/13/11	07/13		LSC-005
S107019-05			B2FDR5		8.63	0.215			100		50		14	07/13/11	07/13		LSC-005
S107019-06			B2FDR6		8.57	0.211			100		50		14	07/13/11	07/13		LSC-005
S107019-07			B2FDR7		9.65	0.205			100		50		14	07/13/11	07/13		LSC-005
S107019-08			B2FDR8		8.92	0.219			100		50		14	07/13/11	07/13		LSC-005
S107019-09			B2FDR9		9.10	0.218			100		50		14	07/13/11	07/13		LSC-005
S107019-10			B2FDT0		8.77	0.227			100		50		14	07/13/11	07/13		LSC-005
S107019-11			B2FDT1		9.00	0.219			100		50		14	07/13/11	07/13		LSC-005
S107019-12			Lab Control Sample		7.81	0.300			100		<u>30</u>			07/13/11	07/14		LSC-004
S107019-13			Method Blank		5.90	0.300			100		50			07/13/11	07/13		LSC-005
S107019-14			Duplicate (S107019-01)		8.32	0.226			100		50		14	07/13/11	07/13		LSC-005
Nominal values and limits from method					30.0	0.200					50			180			

PROCEDURES REFERENCE TRITIUM\_COX\_LSC  
 CP-251 Tritium/Carbon-14 Oxidation, rev 11

AVERAGES ± 2 SD MDA 8.52 ± 1.89  
 FOR 14 SAMPLES YIELD 100 ± 0

Lab id EBRLNE  
 Protocol CHPRC  
 Version Ver 1.0  
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SAMPLE DELIVERY GROUP H4622

SDG 7732  
 Contact N. Joseph Verville

REPORT GUIDE

Client CHPRC  
 Contract No. 33677  
 Case no SDG H4622

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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SDG 7732  
 Contact N. Joseph Verville

REPORT GUIDE

Client CHPRC  
 Contract No. 33677  
 Case no SDG\_H4622

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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SDG 7732  
 Contact N. Joseph Verville

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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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SAMPLE DELIVERY GROUP H4622

SDG 7732  
 Contact N. Joseph Verville

REPORT GUIDE

Client CHPRC  
 Contract No. 33677  
 Case no SDG H4622

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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Client CHPRC  
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DATA SHEET

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

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

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

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

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

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

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

P The RESULT is 'preliminary'.

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

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

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

The following values are underlined to indicate possible problems:

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

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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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SDG 7732  
 Contact N. Joseph Verville

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Client CHPRC  
 Contract No. 33677  
 Case no SDG H4622

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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SDG 7732  
Contact N. Joseph Verville

## REPORT GUIDE

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Contract No. 33677  
Case no SDG H4622

## 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 H4622

SDG 7732  
 Contact N. Joseph Verville

GUIDE, cont.

Client CHPRC  
 Contract No. 33677  
 Case no SDG\_H4622

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.

Lab id EBRLNE  
 Protocol CHPRC  
 Version Ver 1.0  
 Form DVD-RG  
 Version 3.06  
 Report date 07/14/11

SDG 7732  
 Contact N. Joseph Verville

REPORT GUIDE

Client CHPRC  
 Contract No. 33677  
 Case no SDG H4622

MATRIX SPIKE

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

The following notes apply to this report:

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

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

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

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

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

- \* The first, computed limits for the recovery reflect:

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

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

2. The error of ADDED.

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

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

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GUIDE, cont.

Client CHPRC  
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MATRIX SPIKE

for the recovery.

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

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

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REPORT GUIDE

Client CHPRC  
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METHOD SUMMARY

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

The following notes apply to this report:

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

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

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

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

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

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

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

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

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## METHOD SUMMARY

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

- \* Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.
  - \* If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.
- MDAs are underlined if greater than the printed RDL.
- \* Aliquots are underlined if less than the nominal value specified for the method.
  - \* 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

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Client CHPRC  
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METHOD SUMMARY

- \* Count times are underlined if less than the nominal value specified for the method.
- \* Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.
- \* Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.
- \* Days Held are underlined if greater than the holding time specified in the protocol.
- \* Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

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

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

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

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

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

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 Form DVD-RG  
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 Report date 07/14/11

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GUIDE, cont.

Client CHPRC  
 Contract No. 33677  
 Case no SDG\_H4622

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.

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 Version Ver 1.0  
 Form DVD-RG  
 Version 3.06  
 Report date 07/14/11

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-127-079	PAGE 1 OF 1
COLLECTOR <i>Chamberlain</i>	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 373-3931	PROJECT COORDINATOR BAUER, RG	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 216-S-26 RV 1 - Resample	PROJECT DESIGNATION ARRA Verification Sampling of the 216-S-26 Waste Site and 200-W-148-PL	FIELD LOGBOOK NO. HNF-N-507-19	SAF NO. F11-127	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. GWS-103	ACTUAL SAMPLE DEPTH 6"-12"	OFFSITE PROPERTY NO. 2808	COA 302222ES10	BILL OF LADING/AIR BILL NO. 7972 6907 1194	
SHIPPED TO Eberline Services					

MATRIX* A=Air DL=Drum L=Liquid DS=Drum S=Soil O=Oil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION None	HOLDING TIME 6 Months	TYPE OF CONTAINER G/P	NO. OF CONTAINER(S) 1	VOLUME 120ml	SAMPLE ANALYSIS Tritium - H3 (Tritium);
SAMPLE NO. B2FDR1	MATRIX* SOIL	SAMPLE DATE 6-29-11	SAMPLE TIME 0925	X			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
<i>Chamberlain</i>	6-29-11 1010	<i>SSU #1</i>	6-29-11 1010
<i>SSU #1</i>	6-29-11 0800	<i>SSU #1</i>	6-29-11 0800
<i>SSU #1</i>	6-29-11 1400	<i>SSU #1</i>	6-29-11 0800
<i>FED EA</i>		<i>Alex Keleny</i>	6-29-11 1010

**SPECIAL INSTRUCTIONS**  
 \*\* The CACN for all analytical work at WSCF is 401352ES20.  
 \*\* The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.  
 \*\* The laboratory shall achieve a RDL of 30 pCi/g for Tritium.  
 \*\* The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME



CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-127-081	PAGE 1 OF 1
COLLECTOR	<i>Chamberlain</i>	COMPANY CONTACT	<i>H4602</i>	PROJECT COORDINATOR	BAUER, RG
SAMPLING LOCATION	216-S-26 RV 3 - Resample	PROJECT DESIGNATION	ARRA Verification Sampling of the 216-S-26 Waste Site and 200-W-148-PL	SAF NO.	F11-127
ICE CHEST NO.	<i>GWS-103</i>	FIELD LOGBOOK NO.	<i>HNF-N-507-19</i>	COA	302222ES10
SHIPPED TO	Eberline Services	OFFSITE PROPERTY NO.	<i>200-7411</i>	BILL OF LADING/AIR BILL NO.	<i>7972 6907 1194</i>
MATRIX*	A=Air DL=Drum L=Liquid DS=Drum S=Soil SF=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	PRESERVATION	None	PRICE CODE	8C
POSSIBLE SAMPLE HAZARDS/ REMARKS	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	HOLDING TIME	6 Months	AIR QUALITY	<input type="checkbox"/>
SPECIAL HANDLING AND/OR STORAGE	RADIOACTIVE TIE TO: B2FDR0	TYPE OF CONTAINER	G/P	METHOD OF SHIPMENT	FEDERAL EXPRESS
		NO. OF CONTAINER(S)	1		<b>ORIGINAL</b>
		VOLUME	120mL		
		SAMPLE ANALYSIS	Tritium - H3 (Tribium)		
SAMPLE NO.		SAMPLE DATE	6-29-11		
MATRIX*	SOIL	SAMPLE TIME	0916		
B2FDR3					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
<i>Chamberlain</i>	6-29-11 1010	<i>SSU #1</i>	6-29-11 1016
<i>SSU #1</i>	7-5-11 0800	<i>Chamberlain</i>	7-5-11 0800
<i>Chamberlain</i>	7-5-11 1400	<b>FEDEX</b>	
<b>FEDEX</b>		<i>Alex Kelenon</i>	7-6-11 1000

**SPECIAL INSTRUCTIONS**

\*\* The CACN for all analytical work at WSCF is 401352ES20.

\*\* The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

\*\* The laboratory shall achieve a RDL of 30 pCi/g for Tritium.

\*\* The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD		DATE/TIME

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-127-082	PAGE 1 OF 1
COLLECTOR <i>Charbonlain</i>	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 373-3931	PROJECT COORDINATOR BAUER, RG	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 216-S-26 RV 4 - Resample	PROJECT DESIGNATION ARRA Verification Sampling of the 216-S-26 Waste Site and 200-W-148-PL	SAF NO. F11-127	COA 302222E510	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. GNS-103	FIELD LOGBOOK NO. MNE-N-807-19	ACTUAL SAMPLE DEPTH 6"-12"	BILL OF LADING/AIR BILL NO. 797269071194	<b>ORIGINAL</b>	
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. 2808				

MATRIX* A=Air DL=Drum L=Liquid DS=Drum S=Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION None	HOLDING TIME 6 Months	TYPE OF CONTAINER G/P	NO. OF CONTAINER(S) 1	VOLUME 120ml	SAMPLE ANALYSIS Tritium - H3 (Tritium);
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B2FDP1							
SAMPLE NO. B2FDR4	MATRIX* SOIL	SAMPLE DATE 6-29-11	SAMPLE TIME 0912				

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		DATE/TIME	
RELINQUISHED BY/REMOVED FROM <i>W. Charbonlain</i>	RECEIVED BY/STORED IN 35U #1	DATE/TIME 6-29-11	DATE/TIME 1010	DATE/TIME 6-29-11	DATE/TIME 1010
RELINQUISHED BY/REMOVED FROM 35U #1	RECEIVED BY/STORED IN <i>W. Charbonlain</i>	DATE/TIME 7-5-11	DATE/TIME 0800	DATE/TIME 7-5-11	DATE/TIME 0800
RELINQUISHED BY/REMOVED FROM <i>W. Charbonlain</i>	RECEIVED BY/STORED IN <i>W. Charbonlain</i>	DATE/TIME 7-5-11	DATE/TIME 1900	DATE/TIME 7-5-11	DATE/TIME 1900
RELINQUISHED BY/REMOVED FROM 45	RECEIVED BY/STORED IN FED EX	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM 03	RECEIVED BY/STORED IN	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

**SPECIAL INSTRUCTIONS**  
 \*\* The CACN for all analytical work at WSCF is 401352E520.  
 \*\* The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.  
 \*\* The laboratory shall achieve a RDL of 30 pCi/g for Tritium.  
 \*\* The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F11-127-083	PAGE 1 OF 1
COLLECTOR <i>Stales</i>	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 373-3931	PROJECT COORDINATOR BAUER, RG		PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days	
SAMPLING LOCATION 216-S-26 RV 5 - Resample	PROJECT DESIGNATION ARRA Verification Sampling of the 216-S-26 Waste Site and 200-W-148-PL		SAF NO. F11-127		AIR QUALITY	<input type="checkbox"/>	
ICE CHEST NO. GWS-103	FIELD LOGBOOK NO. ANF-N-507-19	ACTUAL SAMPLE DEPTH 6-12"		COA 302222ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. 2808	BILL OF LADING/AIR BILL NO. 797269071194					

MATRIX* A=Air DL=Drum L=Liquid DS=Drum S=Soil O=Oil S=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION None	HOLDING TIME 6 Months	TYPE OF CONTAINER G/P	NO. OF CONTAINER(S) 1	VOLUME 120mL	SAMPLE ANALYSIS Tritium - H3 (Tritium)
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B2FDP2							
SAMPLE NO. B2FDR5	MATRIX* SOIL	SAMPLE DATE 6/29/11	SAMPLE TIME 0915				

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM <i>J Stales</i>	DATE/TIME 6/29/11 1010	RECEIVED BY/STORED IN <i>SAU # 7</i>	DATE/TIME 6-29-11 1010
RELINQUISHED BY/REMOVED FROM <i>TSU # 1</i>	DATE/TIME 7-5-11 0800	RECEIVED BY/STORED IN <i>SAU # 7</i>	DATE/TIME 7-5-11 0900
RELINQUISHED BY/REMOVED FROM <i>TSU # 1</i>	DATE/TIME 7-5-11 1400	RECEIVED BY/STORED IN <b>FEDEX</b>	DATE/TIME
RELINQUISHED BY/REMOVED FROM <b>FEDEX</b>	DATE/TIME	RECEIVED BY/STORED IN <i>Alex Kelensov</i>	DATE/TIME 7/6/11
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
LABORATORY SECTION	RECEIVED BY	TITLE	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME	

**SPECIAL INSTRUCTIONS**

\*\* The CACN for all analytical work at WSCF is 401352ES20.

\*\* The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

\*\* The laboratory shall achieve a RDL of 30 pCi/g for Tritium.

\*\* The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-127-084	PAGE 1 OF 1
COLLECTOR <i>Scale 5</i>	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 373-3931	PROJECT COORDINATOR BAUER, RG	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 216-S-26 RV 5 Dup - Resample	PROJECT DESIGNATION ARRA Verification Sampling of the 216-S-26 Waste Site and 200-W-148-PL	ACTUAL SAMPLE DEPTH 6-12 u	SAF NO. F11-127	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. GWS-103	FIELD LOGBOOK NO. HWFN-507-19	OFFSITE PROPERTY NO. 2808	COA 302222ES10	BILL OF LADING/AIR BILL NO. SEE TR 7972 6907 1194	
SHIPPED TO Eberline Services	PRESERVATION None	HOLDING TIME 6 Months	NO. OF CONTAINER(S) 1	SEE TR 7972 6907 1194	

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	VOLUME	SAMPLE ANALYSIS
A=Air DL=Drum L=Liquid DS=Drum S=Soil O=Oil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	None	6 Months	G/P	120mL	Tribium - H3 (Tribium);
B2FDR6	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B2FDP3					
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B2FDR6	SOIL	6/29/11	0915			

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM <i>Scale 5</i>		550 #1	6-29-11 1010
RELINQUISHED BY/REMOVED FROM 550 #A 7-5-11 0800		C. Johnson	7-5-11 0800
RELINQUISHED BY/REMOVED FROM <i>Scale 5</i>		FEDER	7-5-11 1400
RELINQUISHED BY/REMOVED FROM <i>Scale 5</i>		RECEIVED BY/STORED IN Alex Kelench	7-6-11 FEDER
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	DATE/TIME
LABORATORY SECTION	RECEIVED BY		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD		DATE/TIME

**SPECIAL INSTRUCTIONS**

- \*\* The CACN for all analytical work at WSCF is 401352ES20.
- \*\* The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
- \*\* The laboratory shall achieve a RDL of 30 pCi/g for Tritium.
- \*\* The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

TITLE

DISPOSED BY



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-127-086	PAGE 1 OF 1
COLLECTOR <i>Chamberlain</i>	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 373-3931	PROJECT COORDINATOR BAUER, RG	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 216-S-26 RV7 - Resample	PROJECT DESIGNATION ARRA Verification Sampling of the 216-S-26 Waste Site and 200-W-148-PL	FIELD LOGBOOK NO. HNF-N-507-19	SAF NO. F11-127	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. GNS-103	ACTUAL SAMPLE DEPTH 6-12 1/2	OFFSITE PROPERTY NO. 2808	COA 302222ES10	BILL OF LADING/AIR BILL NO. 2007/5/11 7972 6907 1194	
SHIPPED TO Eberline Services	PRESERVATION None				

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS	SAMPLE DATE	SAMPLE TIME
A=Air DL=Drum L=Liquid S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	6 Months	G/P	1	120mL	Tritium - H3 (Tritium);	6-29-11	0903
BZFD88	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: BZFD85							X

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM <i>Greg Chamberlain</i>	RECEIVED BY/STORED IN SSU #7	6-29-11 1010	6-29-11 1010
RELINQUISHED BY/REMOVED FROM SSU #1	RECEIVED BY/STORED IN Gulfon	7-5-11 0800	7-5-11 0800
RELINQUISHED BY/REMOVED FROM Gulfon	RECEIVED BY/STORED IN FEDEX	7-5-11 1400	7-5-11 1400
RELINQUISHED BY/REMOVED FROM FEDEX	RECEIVED BY/STORED IN <i>Alex Kelench</i>	7-5-11 1400	7-5-11 1400
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		

**SPECIAL INSTRUCTIONS**

\*\* The CACN for all analytical work at WSCF is 401352ES20.

\*\* The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

\*\* The laboratory shall achieve a RDL of 30 pCi/g for Tritium.

\*\* The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-127-087	PAGE 1 OF 1
COLLECTOR <i>Stades</i>	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 373-3931	PROJECT COORDINATOR BAUER, RG	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days	
SAMPLING LOCATION 216-S-26 RV 8 - Resample	PROJECT DESIGNATION ARRA Verification Sampling of the 216-S-26 Waste Site and 200-W-148-PL	FIELD LOGBOOK NO. 14F-N-507-19	ACTUAL SAMPLE DEPTH 6-12"	SAF NO. F11-127	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-103	OFFSITE PROPERTY NO. 2808	BILL OF LADING/AIR BILL NO. 7972 6907 1194		METHOD OF SHIPMENT FEDERAL EXPRESS		
Eberline Services						
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION None	HOLDING TIME 6 Months	TYPE OF CONTAINER G/P		
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B2FDP6		NO. OF CONTAINER(S) 1	VOLUME 120mL	SAMPLE ANALYSIS Tribium - H3 (Tribium);		
SAMPLE NO. B2FDR9	MATRIX* SOIL	SAMPLE DATE 6/29/11	SAMPLE TIME 0859	X		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <i>J Stades</i>	DATE/TIME 6/29/11 1010	RECEIVED BY/STORED IN <i>Saw #7</i>	DATE/TIME 6-29-11 1010	** The CACN for all analytical work at WSCF is 401352ES20.	
RELINQUISHED BY/REMOVED FROM <i>USU #1</i>	DATE/TIME 7-5-11 0900	RECEIVED BY/STORED IN <i>Chilton/Dobson</i>	DATE/TIME 7-5-11 0900	** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM <i>Chilton/Dobson</i>	DATE/TIME 7-5-11 1900	RECEIVED BY/STORED IN <i>FEDEX</i>	DATE/TIME 7-5-11 0900	** The laboratory shall achieve a RDL of 30 pCi/g for Tritium.	
RELINQUISHED BY/REMOVED FROM <i>FEDEX</i>	DATE/TIME	RECEIVED BY/STORED IN <i>Alex Kelenos</i>	DATE/TIME 7/6/11 1010	** The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-127-088	PAGE 1 OF 1
COLLECTOR <i>Scale 5</i>	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 373-3931	PROJECT COORDINATOR BAUER, RG	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 200-W-148-PL RV 9 - Resample	PROJECT DESIGNATION ARRA Verification Sampling of the 216-S-26 Waste Site and 200-W-148-PL	SAF NO. F11-127	COA 302222ES10	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. GWS-103	FIELD LOGBOOK NO. HNF-N-507-19	ACTUAL SAMPLE DEPTH 6-12"	BILL OF LADING/AIR BILL NO. SEE TRK 2808 69071194	ORIGINAL	

SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. 2808	SEE TRK 2808	DATE/TIME
MATRIX* A=Air DL=Drum L=Liquid DS=Drum S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION None	DATE/TIME
	HOLDING TIME	6 Months	DATE/TIME
	TYPE OF CONTAINER	G/P	DATE/TIME
	NO. OF CONTAINER(S)	1	DATE/TIME
	VOLUME	120ml	DATE/TIME
	SAMPLE ANALYSIS	Tritium - H3 (Tribium)	DATE/TIME
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B2FDP7			DATE/TIME
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B2FDT0	SOIL	6/29/11	0902 X

CHAIN OF POSSESSION		SIGN/PRINT NAMES	
RELINQUISHED BY/REMOVED FROM <i>J Scale 5</i>	DATE/TIME 6-29-11 1010	RECEIVED BY/STORED IN <i>SSA #7</i>	DATE/TIME 6-29-11
RELINQUISHED BY/REMOVED FROM <i>SSA #7</i>	DATE/TIME 7-5-11 0800	RECEIVED BY/STORED IN <i>Julian</i>	DATE/TIME 7-5-11 0800
RELINQUISHED BY/REMOVED FROM <i>Julian</i>	DATE/TIME 7-5-11 1400	RECEIVED BY/STORED IN <b>FEDEX</b>	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
LABORATORY SECTION	RECEIVED BY	TITLE	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME	

**SPECIAL INSTRUCTIONS**

\*\* The CACN for all analytical work at WSCF is 401352ES20.

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\*\* The laboratory shall achieve a RDL of 30 pCi/g for Tritium.

\*\* The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-127-089	PAGE 1 OF 1
COLLECTOR <i>Scalés</i>	COMPANY CONTACT BAUER, RG	TELEPHONE NO. 373-3931	PROJECT COORDINATOR BAUER, RG	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 200-W-148-PL RV 10 - Resample	PROJECT DESIGNATION ARRA Verification Sampling of the 216-S-26 Waste Site and 200-W-148-PL	SAF NO. F11-127	COA 302222ES10	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS
ICE CHEST NO. GWS-103	FIELD LOGBOOK NO. ANFN-507-19	ACTUAL SAMPLE DEPTH 6-12" K	BILL OF LADING/AIR BILL NO. SEE PTR 200-7511 7970 6907 1194	ORIGINAL	

SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. 2808	SEEN BY 200-7511
MATRIX* A=Air DL=Drum L=Liquid DS=Drum S=Soil O=Oil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION None	HOLDING TIME 6 Months
		TYPE OF CONTAINER G/P	
		NO. OF CONTAINER(S) 1	
		VOLUME 120mL	
	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: BZFDPB	Tribium - 113 (Tribium);	
SAMPLE NO. B2FDT1	MATRIX* SOIL	SAMPLE DATE 6/29/11	SAMPLE TIME 0858

CHAIN OF POSSESSION		SIGN / PRINT NAMES	
RELINQUISHED BY/REMOVED FROM <i>J Scalés</i>	DATE/TIME 6/29/11	RECEIVED BY/STORED IN <i>Stu #7</i>	DATE/TIME 6-29-11 1000
RELINQUISHED BY/REMOVED FROM <i>PSSO #11</i>	DATE/TIME 7-5-11 0800	RECEIVED BY/STORED IN <i>Stu #7</i>	DATE/TIME 7-5-11 0800
RELINQUISHED BY/REMOVED FROM <i>Stu #7</i>	DATE/TIME 7-5-11 1400	RECEIVED BY/STORED IN <i>FEDEX</i>	DATE/TIME 7-5-11 1400
RELINQUISHED BY/REMOVED FROM <i>FEDEX</i>	DATE/TIME	RECEIVED BY/STORED IN <i>FEDEX</i>	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

**SPECIAL INSTRUCTIONS**

\*\* The CACN for all analytical work at WSCF is 401352ES20.

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\*\* The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.



# RICHMOND, CA LABORATORY

## SAMPLE RECEIPT CHECKLIST

Client: CHPRC City RICHLAND State WA  
 Date/Time received 7/6/11 10:00 CoC No. F11-127-079-089  
 Container I.D. No. GWS-103 Requested TAT (Days) 15 P.O. Received Yes [ ] No [ ]

### INSPECTION

1. Custody seals on shipping container intact? Yes [  ] No [ ] N/A [ ]
2. Custody seals on shipping container dated & signed? Yes [  ] No [ ] N/A [ ]
3. Custody seals on sample containers intact? Yes [  ] No [ ] N/A [ ]
4. Custody seals on sample containers dated & signed? Yes [  ] No [ ] N/A [ ]
5. Packing material is: Wet [ ] Dry [ ] N/A
6. Number of samples in shipping container: 11 Sample Matrix SOIL
7. Number of containers per sample: 1 (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 \_\_\_\_\_ Preservative \_\_\_\_\_
13. Describe any anomalies:  
\_\_\_\_\_  
\_\_\_\_\_
14. Was P.M. notified of any anomalies? Yes [ ] No [ ] Date \_\_\_\_\_
15. Inspected by JR Date: 7/6/11 Time: 10:50

Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wide	Customer Sample No.	Beta/Gamma cpm	Ion Chamber mR/hr	Wide
<u>All samples &lt; 80</u>							

Ion Chamber Ser. No. \_\_\_\_\_ Calibration date \_\_\_\_\_  
 Alpha Meter Ser. No. \_\_\_\_\_ Calibration date \_\_\_\_\_  
 Beta/Gamma Meter Ser. No. 100489 Calibration date 24 Sep. 2010