

DECEMBER 14, 2012

**WSCF Laboratory**

PO Box 650 S3-30  
Richland, WA 99352



December 14, 2012

Scot Fitzgerald  
CH2M-HILL PRC  
PO Box 1600  
Richland, WA 99352

Dear Scot Fitzgerald,

**FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF121517**

Reference: (1) SOW, Mod 2, #36587, Release 3  
(2) MSC-SD-CD-QAPP-017, current version, Waste Sampling & Characterization Facility Quality Assurance Program Plan

This letter contains the following information for sample delivery group WSCF121517

- \* Cover Sheet (Attachment 1)
- \* Narrative (Attachment 2)
- \* Analytical Results (Attachment 3)
- \* Sample Receipt Information (Attachment 4)

Very truly yours,

A handwritten signature in black ink, appearing to read "Joseph Hale", is written over a horizontal line.

Electronically signed by Joseph Hale

For Lab Manager, Dan T. Smith

WSCF Analytical Lab

(509) 373-4804

Attachments 4

CC: w/Attachments

File/LB

ATTACHMENT 1

**COVER SHEET**

Consisting of 2 pages  
Including cover page

**WSCF SAF Number Cross Reference**

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Group # WSCF121517  
Data Deliverable Date 12/14/12

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<b>SAF #</b>	<b>Sample ID</b>	<b>Sample #</b>	<b>Matrix</b>	<b>Sampled</b>	<b>Received</b>
S12-006	B2KY75	121517001	WATER	09/05/12	09/05/12

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ATTACHMENT 2

**NARRATIVE**

Consisting of 4 pages  
Including cover page

**Introduction RDR R7792**

Sample B2KY75 (121124001) was selected for reanalysis at the WSCF Laboratory from 121107WSCF-R7792. The sample was analyzed for the analytes indicated on the attached copy of the RDR form in accordance with the *Statement of Work (SOW), Master Contract 39818, Revision 3, "Laboratory Analytical Services to CHPRC Soil and Groundwater Remediation Project."*

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 3) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the RDR and sample receipt documentation are included as Attachment 4.

It should be noted that the attached chain of custody was not stamped "ICED" by the WSCF Laboratory Sample Custodian during sample receiving. However, based on procedure LO-090-403 form "NOTICE OF IMPROPER SAMPLE SUBMITTAL" was not submitted and was not stamped "NOT ICED". No anomaly was noted during sample receipt.

The following generic data qualifiers (i.e., B, C, D, J and U) may be applicable to this report, as appropriate.

- **B** – Sample results with a concentration greater than the MDL but less than the PQL are B flagged (applies to inorganic and wet chemical analyses), as appropriate.
- **C** – Analyte was detected in the blank and was evaluated. Affected sample results in the batch were C flagged (applies to inorganic and wet chemical analyses).
- **D** – Sample results are D flagged if dilution(s) were required, as appropriate.
- **J** – Sample results with a concentration greater than the MDL but less than the PQL are J flagged (applies to organic analyses), as appropriate.
- **B (organic analyses)** – Analyte was detected in the blank and was evaluated. Affected sample results in the batch were B flagged.
- **U** – Analyzed for but not detected above limiting criteria. Relative Percent Difference (RPD) values associated with an analyte qualified with a "U" are not applicable.

**Analytical Methodology for Requested Analyses**

Refer to *WSCF Method References Report* for a complete listing of approved analytical methods.

**Radiochemistry Comments**

**Rad Chem** – The hold time requirement for this analysis was met. A Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

Attachment 2  
**Narrative**  
WSCF121517

**Gross Beta:**

- All applicable QC controls are within the established limits.

We 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 contained in this data package has been authorized by the Analytical Laboratory Manager (or designee) and the Client Services representative as verified by electronic signatures shown on the WSCF ANALYTICAL RESULTS REPORT.

Attachment 2  
**Narrative**  
 WSCF121517

RECHECK, RECOUNT, OR REANALYSIS ORDER

11/07/2012

**Order Number:** 121107WSCF-R7792

Waste Sampling & Characterization  
 600 AREA Hanford, MSIN S3-28  
 Richland, WA 99352

Sample Delivery Group:WSCF121124

Sample(s):

Method Name:BETA\_GPC

Sample#: B2KY75

Sample Date:9/5/2012 11:22:00 AM

SAF #:S12-006

Lab Sample ID	RDR Action Start Date	Constituent	Action	TAT (Hardcopy/EDD)
121124001	11/7/2012 3:12:15 PM	Gross beta	RECHECK	15 Days / 15 Days
Special Instructions: Data point out of trend by order of magnitude. Please recheck for errors. If no data errors are identified please rerun sample. SLF 11/07/2012				

WSCF Status: There were no anomalies or issues noted during the recheck. The sample will be logged for a reanalysis under work order 1214.

Deliver Report Results to:CHPRC

P.O. Box 1600  
 Richland, WA 99352  
 C/O Mr.Scot Fitzgerald

ATTACHMENT 3

**ANALYTICAL RESULTS**

Consisting of 6 pages  
Including cover page

DECEMBER 14, 2012

**WSCF ANALYTICAL RESULTS REPORT**

For

CH2M Hill Plateau Remediation

PO Box 1600  
Richland, WA 99352

Attention: Scot Fitzgerald

**Contract #** MOA-FH-CHPRC-2008  
**Group #** WSCF121517  
**Report Date** December 14, 2012

Analytical: Electronically signed by Joseph Hale

Client Services: Electronically signed by Heather Medley

*Solid samples results that have a 'Percent Solid' test are reported on a "dry weight basis", except results of TCLP, Percent Solid, and Total Activity. If no 'Percent Solid' test is reported then the results are reported on an "as received" basis.*

This information is intended for the use of the addressee only. If the reader of this report is not the intended recipient or is not authorized by the recipient to receive the report, you are hereby notified that any dissemination, distribution or copying of this report is strictly prohibited. If you have received this report in error, please notify WSCF Laboratory immediately by telephone at (509) 373-7005. Information designation of this report is the responsibility of the customer.

Batch QC List

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121517

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
211127	211520	1	BLANK	85834	BLANK		GAB Discrete analysis Beta only
211127	211520	2	LCS	85835	LCS		GAB Discrete analysis Beta only
211127	211520	4	DUP	85836	B2MYD8(121493002DUP	121493002	GAB Discrete analysis Beta only
211127	211520	9	SAMPLE	121517001	B2KY75		GAB Discrete analysis Beta only

Method Reference

Attention Scot Fitzgerald  
Department Radiochemistry

Group # WSCF121517

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory, industry methods or HEIS methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-508-415	Operation Of The Protean 2-Inch Alpha/Beta Counting System For Gross Alpha/ Beta Samples		
HEIS	ALPHA_GPC	Gross Alpha by GPC	
HEIS	BETA_GPC	Gross Beta by GPC	
HEIS	SRTOT_SEP_PRECIP_GPC	Strontium beta isotopic, GPC	

Note: A complete list of WSCF analytical procedures and reference regulatory or industry methods is available online at <http://www7.rl.gov/rapidweb/AS-DOL/index.cfm>

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121517

Sample # 121517001  
 SAF# S12-006  
 Sample ID B2KY75

Matrix WATER  
 Sampled 09/05/12  
 Received 09/05/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>GAB Prep for Discrete Analysis (W)</b>										12/11/12
<b>GAB Discrete analysis Beta only</b>										
Gross Beta	12587-47-2	LA-508-415		1200	120	pCi/L	1	3.8		12/13/12

MDL = Minimum Detection Limit  
 RQ = Result Qualifier  
 TP Err = Total Propagated Error  
 DF = Dilution Factor  
 + - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE  
 U - Analyzed for but not detected above limiting criteria.  
 N - Spike Recovery is Outside Control Limits.  
 X,Y or Z - See comment detail and/or narrative.  
 PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

Quality Control Report

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121517

Analytical Batch 211520 (QC Batch: 211127) Test GAB Discrete analysis Beta only  
 Associated Samples 121517001

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>		<b>QC Sample #85834</b>								
Gross Beta	12587-47-2		1.3	pCi/L					U	12/13/12
<b>LCS</b>		<b>QC Sample #85835</b>								
Gross Beta	12587-47-2		240	pCi/L	93.6	80 - 120				12/13/12
<b>DUP</b>		<b>QC Sample #85836</b>								
		<b>Original 121493002</b>								
Gross Beta	12587-47-2		14	pCi/L			8.30	20		12/13/12

\* - QC result out of range

n/a - Not Applicable

ATTACHMENT4

**SAMPLE RECEIPT**

Consisting of 3 pages  
Including cover page

**Waste Sampling and Characterization Facility**  
**P.O. Box 1970 S3-30, Richland WA 99352**  
**Phone: (509) 373-7004/FAX: (509) 373-7134**

## ACKNOWLEDGEMENT OF SAMPLES RECEIVED

### WSCF Laboratory

PO Box 650 S3-30  
 Richland, WA 99352

ATTN: Scot Fitzgerald

Customer Code: CHPRC

PO #: 401647

Work Order #: 121517

Profile #: S12-006-246 R7792

Proj. Mgr.:

Phone:

The following samples were received from you on 9/5/2012 3:15:00 PM. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample #	Sample ID	Matrix	Collected	Received
<b>Tests scheduled</b>				
121517001	B2KY75	WATER	9/5/2012 11:22	9/5/2012 15:15
		GAB-BO-W		

### Test Acronym Description

Test Acronym	Description
GAB-BO-W	Gross Alpha/Beta (B only)(W)

Rerun

RECHECK, RECOUNT, OR REANALYSIS ORDER

121517

11/07/2012

fab

Order Number: 121107WSCF-R7792

Waste Sampling & Characterization

600 AREA Hanford, MSIN S3-28

Richland, WA 99352

Sample Delivery Group: WSCF121124

Sample(s):

Method Name: BETA\_GPC

Sample#: B2KY75

Sample Date: 9/5/2012 11:22:00 AM

SAF #: S12-006

Lab Sample ID	RDR Action Start Date	Constituent	Action	TAT (Hardcopy/EDD)
121124001	11/7/2012 3:12:15 PM	Gross beta	RECHECK	15 Days / 15 Days
Special Instructions: Data point out of trend by order of magnitude. Please recheck for errors. If no data errors are identified please rerun sample. SLF 11/07/2012				

121517001

Deliver Report Results to: CHPRC

P.O. Box 1600  
Richland, WA 99352  
C/O Mr.Scot Fitzgerald