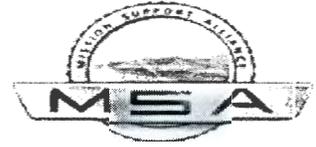


PO Box 650 S3-30
Richland, WA 99352



February 17, 2011

Michael Neely
CH2M-HILL PRC
PO Box 1600
Richland, WA 99352

Dear Michael Neely,

FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF111502

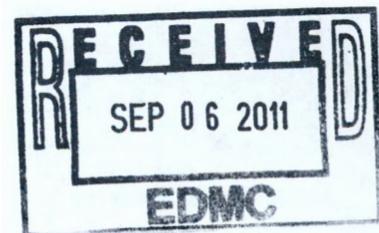
Reference: (1) SOW, Mod 2, #36587, Release 3
(2) HNF-SD-CD-QAPP-017, current version, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF111502

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

Very truly yours,

Electronically signed by Joseph Hale
For Lab Manager
WSCF Analytical Lab
(509) 373-7495



Attachments 4

CC: w/Attachments

File/LB

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF Number Cross Reference

Group # WSCF111502
Data Deliverable Date 02/25/11

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
F11-017	B2BDH3	111502001	WATER	02/10/11	02/10/11
F11-017	B2BDH4	111502002	WATER	02/10/11	02/10/11

ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Introduction

Samples were received at the WSCF laboratory as referenced on the WSCF SAF Number Cross Reference table included in the final report. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Statement of Work (SOW), Modification No. 2 to Agreement 36587, Release 3, "FH WSCF ANALYTICAL SERVICES FOR GROUNDWATER."*

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 chain of custody 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, D, U and J) 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.
- **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.
- **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.

Inorganic Comments

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- All applicable QC controls are within the established limits.

Attachment 2
Narrative
WSCF111502

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 3

ANALYTICAL RESULTS

Consisting of 7 pages
Including cover page

WSCF ANALYTICAL RESULTS REPORT

For

CH2M Hill Plateau Remediation

PO Box 1600
Richland, WA 99352

Attention: Michael Neely

Contract # MOA-FH-CHPRC-2008
Group # WSCF111502
Report Date February 17, 2011

Analytical: Electronically signed by Joseph Hale

Client Services: Electronically signed by Richard Barker

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) 373-7020 or (509) 531-8004. Information designation of this report is the responsibility of the customer.

Batch QC List

Attention Michael Neely
Department Inorganic

Group # WSCF111502

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
176762	176764	4	BLANK	48940	BLANK		ICP-2008 MS All possible metal
176762	176764	5	LCS	48941	LCS		ICP-2008 MS All possible metal
176762	176764	6	MS	48942	B26RT9(111369001MS)	111369001	ICP-2008 MS All possible metal
176762	176764	7	MSD	48943	B26RT9(111369001MSD)	111369001	ICP-2008 MS All possible metal
176762	176764	30	SAMPLE	111502001	B2BDH3		ICP-2008 MS All possible metal
176762	176764	31	SAMPLE	111502002	B2BDH4		ICP-2008 MS All possible metal

Method Reference

Attention Michael Neely
Department Inorganic

Group # WSCF111502

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-505-412	Determination of Trace Elements in Waters & Wastes by ICP-Mass Spectrometry		
	EPA-600/R-94-111	200.8	Determination of Trace Elements in Waters and Waste by Inductively Coupled Plasma
	HEIS	200.8_METALS_ICPMS	Determination of Trace Elements in Waters and Waste by Inductively Coupled Plasma, Mass Spec.

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>

WSCF Analytical Results Report

Attention Michael Neely
 Department Inorganic

Group # WSCF111502

Sample # 111502001
 SAF# F11-017
 Sample ID B2BDH3

Matrix WATER
 Sampled 02/10/11
 Received 02/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										02/14/11
ICP-MS										
Chromium	7440-47-3	LA-505-412	UD	<1.0		ug/L	2	1.0	10	02/16/11

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary diltution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)

WSCF Analytical Results Report

Attention Michael Neely
 Department Inorganic

Group # WSCF111502

Sample # 111502002
 SAF# F11-017
 Sample ID B2BDH4

Matrix WATER
 Sampled 02/10/11
 Received 02/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
ICPMS Prep										02/14/11
ICP-MS										
Chromium	7440-47-3	LA-505-412	UD	<1.0		ug/L	2	1.0	10	02/16/11

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
 C - Analyte was found in the Associated Blank. (Inorganic)
 D - Analyte was reported at a secondary dilution factor.
 E - Analyte is an estimate, see comment section.
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.
 X,Y or Z - See comment detail and/or narrative.
 PQL is equivalent to Estimated Quantitation Limit (EQL)

Quality Control Report

Attention Michael Neely
 Department Inorganic

Group # WSCF111502

QC Batch 176762 Test ICP-2008 MS All possible metal
 Associated Samples 111502001, 111502002

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			QC Sample #48940							
Chromium LCS	7440-47-3		<0.50	ug/L					U	02/16/11
			QC Sample #48941							
Chromium MS	7440-47-3		39.9	ug/L	99.8	85 - 115				02/16/11
			QC Sample #48942							
			Original 111369001							
Chromium MSD	7440-47-3		39.4	ug/L	98.4	70 - 130				02/16/11
			QC Sample #48943							
			Original 111369001						Paired 48942	
Chromium	7440-47-3		39.2	ug/L	98	70 - 130	0.40	20		02/16/11

ATTACHMENT4

SAMPLE RECEIPT

Consisting of 4 pages
Including cover page

Sample Receipt

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: Michael Neely

Customer Code: CHPRC
PO #: 401922ES20
Work Order #: 111502
Profile #: F11-017-041
Proj. Mgr.:
Phone:

The following samples were received from you on 2/10/2011 3:10:00 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
		Tests scheduled		
111502001	B2BDH3	WATER	2/10/2011 10:50	2/10/2011 15:10
		2008-W		
111502002	B2BDH4	WATER	2/10/2011 12:05	2/10/2011 15:10
		2008-W		

Test Acronym Description

Test Acronym	Description
2008-W	ICP-MS (W)

CH2M Hill Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-017-041	PAGE 1 OF 1
COLLECTOR <i>Chamberlain</i>	COMPANY CONTACT RADLOFF, AW	TELEPHONE NO. 376-4554	PROJECT COORDINATOR RADLOFF, AW	PRICE CODE 78	DATA TURNAROUND 7 Days / 15 Days	
SAMPLING LOCATION F3 Tract 5	PROJECT DESIGNATION 100 Area Remedial Investigation/Possibility Analysis - 150 FA-3 Pore Water	SAF NO. F11-017	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE		
ICE CHEST NO.	FIELD LOGBOOK NO. <i>HNF-AI-507-11</i>	ACTUAL SAMPLE DEPTH <i>N/A</i>	COA 300118810	BILL OF LADING/AIR BILL NO. N/A		
SHIPPED TO Waste Sampling & Characterization		OFFSITE PROPERTY NO. N/A				
MATRIX* A=Air D=Drum L=Liquid DS=Drum S=Solid L=Liquid G=Gas S=Soil SC=Soil T=Trace V=Vegetation W=Water W=Wipe O=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 (all are not releasable per DOE Order 5400.5 (1990/1993)) <i>111502</i> SPECIAL HANDLING AND/OR STORAGE This sample has been subsampled from the bulk sample B00003 <i>Transferred from bulk 1440</i>	PRESERVATION (pH) or pH +2	HOLDING TIME 6 Months	TYPE OF CONTAINER 60	NO. OF CONTAINER(S) 1	VOLUME 250mL
		SAMPLE ANALYSIS		EPA-821-A (SW And MSW) (Cadmium)		
SAMPLE NO. B250H3	MATRIX* WATER	SAMPLE DATE 2-10-11	SAMPLE TIME 1050	A		

OR

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <i>Wesley...</i>	DATE/TIME <i>2/10/11 15:10</i>	RECEIVED BY/STORED IN <i>JA PRAZNER</i>	DATE/TIME <i>2/10/11 15:10</i>	** The CAN for all analytical work at WSCF laboratory is 401922ES20.	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** Field filtering of the water or the Metals aliquot will be performed by the field HCOs. The filtered material will be preserved with HNO3 to pH < 2 prior to shipment to the laboratory.	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** Sample date and time recorded on COCs and labels reflect date and time bulk sample was collected.	
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	

4-603 (REV 2)

CH2M HILL Metcon Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		FL1-017-042	PAGE 1 OF 1
COLLECTOR <i>Chamberlain</i>	COMPANY CONTACT RADLOFF, AW	TELEPHONE NO. 376-4554	PROJECT COORDINATOR RADLOFF, AW	PRICE CODE 7B	DATA TURNAROUND 7 Days / 15 Days
SAMPLING LOCATION F1 Trained 5 XUP	PROJECT DESIGNATION 100 Area Remedial Investigation/Phase 2b Analysis - 100 P4 3 Pore Water	SAF NO. P11-017	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT: VEHICLE	
ICE CHEST NO.	FIELD LOGBOOK NO. <i>HNF-N-507-11</i>	ACTUAL SAMPLE DEPTH <i>N/A</i>	COA 30011RES10	BILL OF LADING/AIR BILL NO. N/A	
SHIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A				
MATRIX* D = Down G = Gas L = Liquid O = Oil S = Soil SE = Sediment T = Tissue V = Vegetation W = Water WT = Waste 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 HNO3 to pH <2	HOLDING TIME 6 Months		
		TYPE OF CONTAINER 9G	NO. OF CONTAINER(S) 1		
		VOLUME 250ML	SAMPLE ANALYSIS EPA 821-B (100 Area GRP) (Cyanide) <i>(F)</i>		
	SPECIAL HANDLING AND/OR STORAGE This sample has been subsampled from the bulk sample B2B290 <i>Transferred from bulk 1440</i>				
SAMPLE NO. B2BDH4 <i>02 A</i>	MATRIX* WATER	SAMPLE DATE 2-10-11	SAMPLE TIME 1205	X	

02 A

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <i>Gigley/Bozell</i>	DATE/TIME <i>2-10-11 15:10</i>	RECEIVED BY/STORED IN <i>JA FRAZIER</i>	DATE/TIME <i>2/10/11 15:10</i>	** The CACN for all analytical work at WSCF laboratory is 401922ES20.	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** The 100 Area 53GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** Field filtering of the water for the Metals aliquot will be performed by the field NCOs. The filtered material will be preserved with HNO3 to pH<2 prior to shipment to the laboratory.	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** Sample date and time recorded on COCs and labels reflect date and time bulk sample was collected.	
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	

4 6002 6-0 (REV 2)