

PO Box 650 S3-30
Richland, WA 99352



December 29, 2010

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

Dear Michael Neely,

FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF103435

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 WSCF103435

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

Very truly yours,

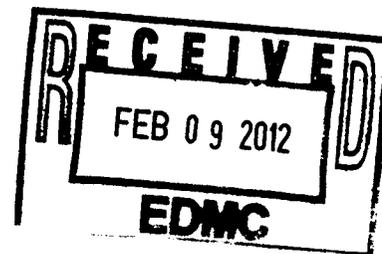


Electronically signed by Joseph Hale

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 # WSCF103435
Data Deliverable Date 12/30/10

SAF #	Sample ID	Sample #	Matrix	Sampled	Received
F11-040	B2B4X8	103435001	WATER	12/19/10	12/19/10
F11-040	B2B4Y0	103435002	WATER	12/19/10	12/19/10

ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Introduction

Two (2) S&GRP samples were received at the WSCF Laboratory on December 19, 2010. 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

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

- Batch QC 172521 analyzed on sample# B294P9 (103434001)

All applicable QC controls are within the established limits.

Attachment 2
Narrative
WSCF103435

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 # WSCF103435
Report Date December 29, 2010

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 **Group #** WSCF103435
Department Inorganic

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
172521	172521	1	BLANK	44425	BLANK		Hexavalent chromium Discrete Analyzer
172521	172521	3	LCS	44427	LCS		Hexavalent chromium Discrete Analyzer
172521	172521	4	DUP	44428	B294P9(103434001DUP)	103434001	Hexavalent chromium Discrete Analyzer
172521	172521	5	MS	44429	B294P9(103434001MS)	103434001	Hexavalent chromium Discrete Analyzer
172521	172521	14	SAMPLE	103435001	B2B4X8		Hexavalent chromium Discrete Analyzer
172521	172521	15	SAMPLE	103435002	B2B4Y0		Hexavalent chromium Discrete Analyzer

Method Reference

Attention Department Michael Neely Inorganic **Group #** WSCF103435

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-265-403	Hexavalent Chromium Analysis	
EPA SW-846	7196A	Hexavalent Chromium
HEIS	7196_CR6	Hexavalent Chromium

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 # WSCF103435

Sample # 103435001
 SAF# F11-040
 Sample ID B2B4X8

Matrix WATER
 Sampled 12/19/10
 Received 12/19/10

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cr(VI)										12/19/10
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.0020		mg/L	1	0.0020	0.0050	12/19/10

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)

WSCF Analytical Results Report

Attention Michael Neely
 Department Inorganic

Group # WSCF103435

Sample # 103435002
 SAF# F11-040
 Sample ID B2B4Y0

Matrix WATER
 Sampled 12/19/10
 Received 12/19/10

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cr(VI)										12/19/10
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.0020		mg/L	1	0.0020	0.0050	12/19/10

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 **Group #** WSCF103435
Department Inorganic

QC Batch 172521 **Test** Hexavalent chromium Discrete Analyzer
Associated Samples 103435001, 103435002

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK										
Hexavalent chromium	18540-29-9		<0.0020	mg/L					U	12/19/10
LCS										
Hexavalent chromium	18540-29-9		0.0485	mg/L	97	90 - 110				12/19/10
DUP										
Hexavalent chromium	18540-29-9		0.373	mg/L			1.90	20		12/19/10
MS										
Hexavalent chromium	18540-29-9		0.0388	mg/L	97	85 - 115				12/19/10

QC Sample #44425

QC Sample #44427

QC Sample #44428

Original 103434001

QC Sample #44429

Original 103434001

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 #: 302560/ES10
Work Order #: 103435
Profile #: F11-040-015
Proj. Mgr.:
Phone:

The following samples were received from you on 12/19/2010 1:15:00 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
		Tests scheduled		
103435001	B2B4X8	WATER	12/19/2010 07:05	12/19/2010 13:15
		CR6DA-W		
103435002	B2B4Y0	WATER	12/19/2010 10:30	12/19/2010 13:15
		CR6DA-W		

Test Acronym Description

Test Acronym	Description
CR6DA-W	Cr6 (W-Discrete analyzer)

Sample Receipt

Chain of Custody

CHUMHILL Plateau Remediation Company
COLLECTOR *John M. ...*
SAMPLING LOCATION *...*
ICE CHEST NO. *...*
SHIPPED TO *WSCF*
CHUMHILL Plateau Remediation Company
WINDING, IL
PROJECT DESIGNATION *...*
FIELD LOGBOOK NO. *...*
OFFSITE PROPERTY NO. *...*

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
TELEPHONE NO. 316-2834
PROJECT COORDINATOR WINDING, IL
SAP NO. P11-040
PRICE CODE C01
AIR QUALITY
METHOD OF SHIPMENT GOVERNMENT VEHICLE
ACTUAL SAMPLE DEPTH *...*
BILL OF LADING/ATR BILL NO. N/A

PRESERVATION	HOLDING TIME	TYPE OF CONTAINER	NO. OF CONTAINERS(S)	VOLUME	SAMPLE DATE	SAMPLE TIME
Outdoor	24 Hours	...	1	200L	12-19-10	16:30

SAMPLE NO. B2BAY0 **MATRIX** WATER
SPECIAL HANDLING AND/OR STORAGE

CHAIN OF POSSESSION	SIGN/PRINT NAMES	DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	12-19-10/13:15	12-19-10/13:15
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN		

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

SPECIAL INSTRUCTIONS
 ** The 200 Area S&GSP Characterization and Monitoring Sampling and Analysis CK1 applies to this SAP. ** 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. ** Per previous written agreement, the laboratories shall report all final data for this sampling event on or before December 30, 2010. Contact the Project Coordinator for questions.

ORIGINAL