RECEIVED JANUARY 5, 2009

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WSCF Analytical Lab
P.O. Box 1000
Richland, Washington 99352
Telephone 373-7495
Telefax 372-0456

0082331

FLUOR®

M4W41-SLF-08-1335

December 31, 2008

Mr. M. A. Neely, Manager
Analytical Services
CH2M HILL Plateau Remediation Contract
PO Box 1600 MSIN B6-06
Richland, WA 99352

Dear Mike:

FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20082336

Reference: (1) Memorandum of Agreement #MOA-FH-CHPRC-2008, Rev. 0, for the Performance & Payment of Services, dated October 1, 2008

(2) HNF-SD-CD-QAPP-017, Rev. 9, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following attachments for sample delivery group WSCF20082336:

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

Very truly yours,

for S. L. Fitzgerald
WSCF Analytical Lab

SLF/grf

Attachments 4

cc: w/Attachments

T. F. Dale	S3-30	J. E. Trechter	S3-30
A. J. Kopriva	S3-30	S. J. Trent	B6-06
H. K. Meznarich	S3-30	File/LB	
P. D. Mix	S3-30		

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20082336
Data Deliverable Date: 16-jan-2009
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
I09-014	B1XYC2	W08P005303	WATER

M4W41-SLF-08-1335

ATTACHMENT 2

NARRATIVE

Consisting of 2 pages
Including cover page

Introduction

One groundwater sample was received at the WSCF Laboratory on December 3, 2008. Sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Memorandum of Agreement (MOA-FH-CHPRC-2008, Rev.0),* referenced in the cover letter.

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 stamped "ICED" by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the transport container.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* page 9, for a complete listing of approved analytical methods.

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 11 through 12 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike, Matrix Spike Duplicate were analyzed on sample# B1W4R5 (SDG# 20082337).
- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit were B flagged.

All QC controls are within the established limits.

I certify that this data package is in compliance with the MOA, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager and Client Services as verified by the following signatures.

for Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Pauline D. Mix
WSCF Client Services

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ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 7 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: WW Baird 12/31/2008

Client Services: P. D. Mix

All results are reported on an "as received" basis unless otherwise noted in the comment section.

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.

Report#: WSCF20082336
Report Date: 31-dec-2008
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 31-dec-2008 11:24:48

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20082336

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
38720	2	39142	43616	BLANK		Anions by Ion Chromatography
38720	16	39142	43616	BLANK		Anions by Ion Chromatography
38720	3	39142	43616	LCS		Anions by Ion Chromatography
38720	8	39142	43616	SAMPLE	W08P005303	Anions by Ion Chromatography
38720	5	39142	43616	DUP	W08P005313	Anions by Ion Chromatography
38720	6	39142	43616	MS	W08P005313	Anions by Ion Chromatography
38720	7	39142	43616	MSD	W08P005313	Anions by Ion Chromatography
38720	7	39142	43616	SPK-RPD	W08P005313	Anions by Ion Chromatography

WSCF
METHOD REFERENCES REPORT

Department: Inorganic

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 or industry 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 the 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-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300.0	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
	HEIS 300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://www2.rl.gov/phmc/as-dol.

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I09-014
Sample # W08P005303
Client ID: B1XYC2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20082336
Department: Inorganic
Sampled: 12/03/08
Received: 12/03/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	BD	0.0809	mg/L			2.00	0.046		12/03/08
Chloride	16887-00-6	LA-533-410	D	14.2	mg/L			2.00	0.094		12/03/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		12/03/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	9.43	mg/L			2.00	0.024		12/03/08
Sulfate	14808-79-8	LA-533-410	D	97.7	mg/L			2.00	0.26		12/03/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

B - The analyte < the RDL but >= the IDL/MDL (inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
D - Analyte was identified at a secondary dilution factor(inorg)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20082336
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 12/03/08
Receive Date:12/03/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P005313											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	6.7799		RPD			0.516	20.000		12/03/08
DUP	Fluoride	16984-48-8	0.3049		RPD			6.467	20.000		12/03/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	12/03/08
DUP	Nitrogen in Nitrate	NO3-N	2.8417		RPD			0.102	20.000		12/03/08
DUP	Sulfate	14808-79-8	25.6368		RPD			0.631	20.000		12/03/08
MS	Chloride	16887-00-6	1.06375	107.995	% Recov	80.000	120.000				12/03/08
MS	Fluoride	16984-48-8	0.52675	104.307	% Recov	80.000	120.000				12/03/08
MS	Nitrogen in Nitrite	NO2-N	0.43225	87.856	% Recov	80.000	120.000				12/03/08
MS	Nitrogen in Nitrate	NO3-N	0.4313	96.921	% Recov	80.000	120.000				12/03/08
MS	Sulfate	14808-79-8	1.69775	85.745	% Recov	80.000	120.000				12/03/08
MSD	Chloride	16887-00-6	1.0069	102.223	% Recov	80.000	120.000				12/03/08
MSD	Fluoride	16984-48-8	0.5288	104.713	% Recov	80.000	120.000				12/03/08
MSD	Nitrogen in Nitrite	NO2-N	0.43275	87.957	% Recov	80.000	120.000				12/03/08
MSD	Nitrogen in Nitrate	NO3-N	0.40845	91.787	% Recov	80.000	120.000				12/03/08
MSD	Sulfate	14808-79-8	1.74145	87.952	% Recov	80.000	120.000				12/03/08
SPK-RPD	Chloride	16887-00-6	102.223		RPD			5.491	20.000		12/03/08
SPK-RPD	Fluoride	16984-48-8	104.713		RPD			0.388	20.000		12/03/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	87.957		RPD			0.115	20.000		12/03/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	91.787		RPD			5.441	20.000		12/03/08
SPK-RPD	Sulfate	14808-79-8	87.952		RPD			2.541	20.000		12/03/08
BATCH QC											
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	12/03/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	12/03/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	12/03/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	12/03/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20082336
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	12/03/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	12/03/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	12/03/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	12/03/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	12/03/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	12/03/08
LCS	Chloride	16887-00-6	194.7924	97.886	% Recov	80.000	120.000				12/03/08
LCS	Fluoride	16984-48-8	102.7164	100.702	% Recov	80.000	120.000				12/03/08
LCS	Nitrogen in Nitrite	NO2-N	98.7408	99.337	% Recov	80.000	120.000				12/03/08
LCS	Nitrogen in Nitrate	NO3-N	90.7533	100.949	% Recov	80.000	120.000				12/03/08
LCS	Sulfate	14808-79-8	391.6223	97.906	% Recov	80.000	120.000				12/03/08

M4W41-SLF-08-1335

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

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

File
1-16-08

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 131280
Group#: 20082336

The following samples were received from you on 12/03/08. 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	Tests Scheduled	Matrix	Sample Date
W08P005303	B1XYC2	PNNL-GPP @IC-30	Water	12/03/08

Test Acronym Description

Test Acronym	Description
@IC-30	Anions by Ion Chromatography

CHPRC

1-16-08

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I09-014-6

Page 1 of 1

Collector: R. A. Shepard	Contact/Requester: Dana Widrig	Telephone No.: 509-376-2858 MSIN N/A FAX N/A
SAF No.: I09-014	Sampling Origin: Hanford Site	Purchase Order/Charge Code: N/A
Project Title: ISRM DECEMBER 2008	HNF-N-506-18 Pg 54	Ice Chest No.: Temp. N/A
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.: N/A
Protocol: CERCLA	Priority: 45 Days	Offsite Property No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

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

20082336

SPECIAL INSTRUCTIONS Hold Time

FY08 and FY09 samples cannot be in the same SDG.
100 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B1XYC2 W08	P005303	W	12-3-08	0849	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	28 Days/48 Hours	Cool~4C

12-3-08

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
R. A. Shepard			DEC 03 2008 0916	R Ellingsworth			DEC 03 2008 0916
R Ellingsworth			DEC 03 2008 1050	TA Erazm			DEC 03 2008 1050

Matrix *

S	= Soil	DS	= Drum Solid
SE	= Sediment	DL	= Drum Liqui
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION | Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time