

FLUOR[®]

M4W41-SLF-07-298

May 17, 2007

Ms. Dorothy L. Stewart, K6-96
Field Hydrology & Chemistry
Pacific Northwest National Laboratory
902 Battelle Boulevard
Richland, WA 99352

Dear Ms. Stewart:

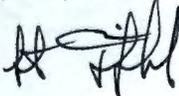
FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20070803

- Reference:
- 1) Letter of Instruction for Analytical Services for the Groundwater Performance Assessment Project and Analytical Laboratory Transition Plan, FH-0602422, September 19, 2006
 - 2) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF20070803:

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

Very truly yours,



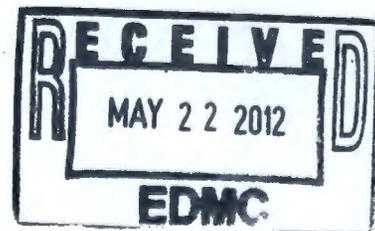
S. L. Fitzgerald
Manager, Analytical Chemistry

SLF/grf

Attachments 4

cc: T. F Dale, S3-30
D. Felmy, K6-75
H. Hampt, K6-96
H. K. Meznarich, S3-30
P. D. Mix, S3-30

J. E. Trechter, S3-30
S. J. Trent, E6-35
D. D. Wright, S3-30
File/LB



Rec 5/22/07

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20070803
Data Deliverable Date: 25-may-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
X07-030	B1N788	W07P000928	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Sample Delivery Group	WSCF20070803
Sample Matrix	Water
Data Deliverable	Summary Report

Introduction

One groundwater sample was received at the WSCF Laboratory on May 11, 2007. Sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Letter of Instruction for Analytical Services for the Groundwater Remediation Project in support of the Performance Assessment Project*, 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. 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” and initialed by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the sample container.

Analytical Methodology for Requested Analyses

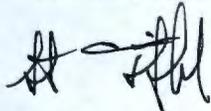
Refer to *WSCF Method References Report*, page 10, for a complete listing of approved analytical methods.

Inorganic Comments

Hexavalent Chromium – Hold time requirement was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 12 for QC details.

All QC controls are within the established limits.

I certify that this data package is in compliance with the LOI, 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.



Scot L. Fitzgerald
WSCF Analytical Laboratory Manager



Pauline D. Mix
WSCF Client Services

Abbreviations

Hg – mercury

IC – ion chromatography

ICP – inductively coupled plasma

ICP/AES – ICP/atomic emission spectroscopy

ICP/MS – ICP/mass spectrometry

Total U – total uranium

AT/TB – total alpha/total beta

AEA – Alpha Energy Analysis

WTPH-G – Total Hydrocarbons-Gasoline

Am – americium

Cm – curium

Pu – plutonium

Np – neptunium

GEA – gamma energy analysis

H3 – Tritium

Sr – Strontium 89, 90

WTPH-D – Total Hydrocarbons-Diesel

TSS – Total Suspended Solids

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ATTACHMENT 3

ANALYTICAL RESULTS

**Consisting of 6 pages
Including cover page**

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: DL Stewart K6-96

Analytical: *S. Fitzgerald 5/17/07*
Client Services: *P.O. Misp 5/17/2007*

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#: WSCF20070803
Report Date: 17-may-2007
Report WGPP/ver. 5.2
GPAP

Page 1

W13q Worklist/Batch/QC Report for Group# WSCF20070803

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
31832	2	32212	36306	BLANK		Hexavalent chromium
31832	8	32212	36306	BLANK		Hexavalent chromium
31832	3	32212	36306	LCS		Hexavalent chromium
31832	5	32212	36306	DUP	W07P000928	Hexavalent chromium
31832	6	32212	36306	MS	W07P000928	Hexavalent chromium
31832	7	32212	36306	MSD	W07P000928	Hexavalent chromium
31832	4	32212	36306	SAMPLE	W07P000928	Hexavalent chromium
31832	7	32212	36306	SPK-RPD	W07P000928	Hexavalent chromium

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-265-403	LA-265-403: Hexavalent Chromium analysis by Spectrophotometer
EPA SW-846 7196A	HEXAVALENT CHROMIUM
HEIS 7196_CR6	Hexavalent Chromium

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>.

Report Date: 17-may-2007
Report#: WSCF20070803
Report WGPPM/5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: X07-030

Sample # W07P000928

Client ID: B1N788 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070803

Department: Inorganic

Sampled: 05/11/07

Received: 05/11/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403		5.50e-03	mg/L			1.00	2.0e-03		05/11/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070803
 Matrix: WATER
 Test: Hexavalent chromium

Sample Date: 05/11/07
 Receive Date: 05/11/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P000928											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Hexavalent chromium	18540-29-9	0.0055		RPD			0.000	15.000		05/11/07
MS	Hexavalent chromium	18540-29-9	0.0516	97.727	% Recov	85.000	115.000				05/11/07
MSD	Hexavalent chromium	18540-29-9	0.0516	97.727	% Recov	85.000	115.000				05/11/07
SPK-RPD	Hexavalent chromium	18540-29-9	97.727		RPD			0.000	20.000		05/11/07
BATCH QC											
BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000			U	05/11/07
BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000			U	05/11/07
LCS	Hexavalent chromium	18540-29-9	0.0494	99.398	% Recov	80.000	120.000				05/11/07

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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

ACKNOWLEDGMENT OF SAMPLES RECEIVED

05/25/07
H

GPAP

Richland, WA 99352
Attn: DL Stewart K6-96

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20070803

The following samples were received from you on 05/11/07. 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
W07P000928	B1N788	STEWART CR+6	Water	05/11/07

Test Acronym Description

Test Acronym	Description
CR+6	Hexavalent chromium

