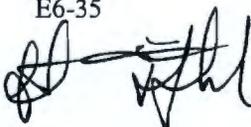


RECEIVED SEPTEMBER 4, 2008

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

FLUOR**Memorandum**

To: H. Hampt E6-35 Date: M4W41-SLF-08-946
 September 4, 2008

From: S. L. Fitzgerald, Manager
 WSCF Analytical Lab 

cc: w/Attachments

T. F. Dale	S3-30	P. D. Mix	S3-30
D. Felmy (PNNL)	K6-75	J. E. Trechter	S3-30
A. J. Kopriva	S3-30	S. J. Trent	E6-35
H. K. Meznarich	S3-30	File/LB	

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20081736

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. 9, Waste Sampling & Characterization Facility Quality Assurance Plan

This transmittal contains the following information for sample delivery group WSCF20081736:

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

SLF/grf

Attachments 4

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EDMC

M4W41-SLF-08-946

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20081736
Data Deliverable Date: 11-sep-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
I08-051	B1WD25	W08P003954	WATER
I08-055	B1WFR2	W08P003951	WATER
	B1WFR8	W08P003952	WATER

M4W41-SLF-08-946

ATTACHMENT 2

NARRATIVE

**Consisting of 2 pages
Including cover page**

Introduction

Three groundwater samples were received at the WSCF Laboratory on August 13, 2008. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, 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 sample container.

Analytical Methodology for Requested Analyses

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

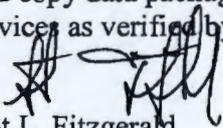
Inorganic Comments

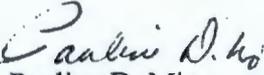
Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 13 through 15 for QC details. Analytical Note(s):

- Duplicates, Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1WD18 (SDG# 20081733) and B1WFR2 of this SDG.
- Sample results were D flagged if dilution(s) were required.

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

M4W41-SLF-08-946

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 10 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical:

Hill S. Fitzgerald 9/4/08

Client Services:

P.D. P.O. Mix 9/4/2008

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#: WSCF20081736
Report Date: 4-sep-2008
Report WGPP/ver. 5.2
GPAP

Page 1

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081736

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37602	2	38041	42389	BLANK		Anions by Ion Chromatography
37602	14	38041	42389	BLANK		Anions by Ion Chromatography
37602	28	38041	42389	BLANK		Anions by Ion Chromatography
37602	3	38041	42389	LCS		Anions by Ion Chromatography
37602	15	38041	42389	LCS		Anions by Ion Chromatography
37602	5	38041	42389	DUP	W08P003919	Anions by Ion Chromatography
37602	6	38041	42389	MS	W08P003919	Anions by Ion Chromatography
37602	7	38041	42389	MSD	W08P003919	Anions by Ion Chromatography
37602	7	38041	42389	SPK-RPD	W08P003919	Anions by Ion Chromatography
37602	17	38041	42389	DUP	W08P003951	Anions by Ion Chromatography
37602	18	38041	42389	MS	W08P003951	Anions by Ion Chromatography
37602	19	38041	42389	MSD	W08P003951	Anions by Ion Chromatography
37602	16	38041	42389	SAMPLE	W08P003951	Anions by Ion Chromatography
37602	19	38041	42389	SPK-RPD	W08P003951	Anions by Ion Chromatography
37602	21	38041	42389	SAMPLE	W08P003952	Anions by Ion Chromatography
37602	13	38041	42389	SAMPLE	W08P003954	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>.

Report Date: 4-sep-2008

Report#: WSCF20081736

Report WGPPM/5.2

Page 1

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-055
Sample # W08P003951
Client ID: B1WFR2

Group #: WSCF20081736
Department: Inorganic
Sampled: 08/13/08
Received: 08/13/08

TRENT

Matrix: WATER

WSCF

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	DU	< 0.0464	mg/L			2.00	0.046		08/14/08
Chloride	16887-00-6	LA-533-410	D	3.39	mg/L			2.00	0.094		08/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	1.35	mg/L			2.00	0.024		08/14/08
Sulfate	14808-79-8	LA-533-410	D	17.8	mg/L			2.00	0.26		08/14/08

MDL=Minimum Detection Limit

D - Analyte was identified at a secondary dilution factor(inorg)

U - Analyzed for but not detected above limiting criteria(inorg)

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

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-055
Sample # W08P003952
Client ID: B1WFR8

Group #: WSCF20081736
Department: Inorganic
Sampled: 08/13/08
Received: 08/13/08

TRENT

Matrix: WATER

WSCF

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	DU	< 0.0464	mg/L			2.00	0.046		08/14/08
Chloride	16887-00-6	LA-533-410	D	14.5	mg/L			2.00	0.094		08/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	8.24	mg/L			2.00	0.024		08/14/08
Sulfate	14808-79-8	LA-533-410	D	88.0	mg/L			2.00	0.26		08/14/08

MDL=Minimum Detection Limit

D - Analyte was identified at a secondary dilution factor(inorg)

U - Analyzed for but not detected above limiting criteria(inorg)

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

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-051
Sample # W08P003954
Client ID: B1WD25

Group #: WSCF20081736
Department: Inorganic
Sampled: 08/13/08
Received: 08/13/08

TRENT
 WSCF

Matrix: WATER

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	DU	< 0.0464	mg/L			2.00	0.046		08/14/08
Chloride	16887-00-6	LA-533-410	D	3.95	mg/L			2.00	0.094		08/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	1.46	mg/L			2.00	0.024		08/14/08
Sulfate	14808-79-8	LA-533-410	D	19.2	mg/L			2.00	0.26		08/14/08

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

D - Analyte was identified at a secondary dilution factor(inorg)

U - Analyzed for but not detected above limiting criteria(inorg)

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081736
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 08/13/08
 Receive Date: 08/13/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003919											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	5.336		RPD			0.056	20.000		08/14/08
DUP	Fluoride	16984-48-8	<4.64e-2		RPD			n/a	20.000	U	08/14/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	08/14/08
DUP	Nitrogen in Nitrate	NO3-N	2.2604		RPD			0.199	20.000		08/14/08
DUP	Sulfate	14808-79-8	24.3181		RPD			0.087	20.000		08/14/08
MS	Chloride	16887-00-6	0.9185	92.312	% Recov	80.000	120.000				08/14/08
MS	Fluoride	16984-48-8	0.4837	98.114	% Recov	80.000	120.000				08/14/08
MS	Nitrogen in Nitrite	NO2-N	0.47875	97.307	% Recov	80.000	120.000				08/14/08
MS	Nitrogen in Nitrate	NO3-N	0.429	96.188	% Recov	80.000	120.000				08/14/08
MS	Sulfate	14808-79-8	1.8072	92.204	% Recov	80.000	120.000				08/14/08
MSD	Chloride	16887-00-6	0.92505	92.970	% Recov	80.000	120.000				08/14/08
MSD	Fluoride	16984-48-8	0.5002	101.460	% Recov	80.000	120.000				08/14/08
MSD	Nitrogen in Nitrite	NO2-N	0.49125	99.848	% Recov	80.000	120.000				08/14/08
MSD	Nitrogen in Nitrate	NO3-N	0.45835	102.769	% Recov	80.000	120.000				08/14/08
MSD	Sulfate	14808-79-8	1.83265	93.503	% Recov	80.000	120.000				08/14/08
SPK-RPD	Chloride	16887-00-6	92.970		RPD			0.710	20.000		08/14/08
SPK-RPD	Fluoride	16984-48-8	101.460		RPD			3.353	20.000		08/14/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	99.848		RPD			2.578	20.000		08/14/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	102.769		RPD			6.615	20.000		08/14/08
SPK-RPD	Sulfate	14808-79-8	93.503		RPD			1.399	20.000		08/14/08
Lab ID: W08P003951											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	3.3561		RPD			0.967	20.000		08/14/08
DUP	Fluoride	16984-48-8	<4.64e-2		RPD			n/a	20.000	U	08/14/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081736
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 08/13/08
 Receive Date: 08/13/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Nitrogen in Nitrate	NO3-N	1.3416		RPD			0.424	20.000		08/14/08
DUP	Sulfate	14808-79-8	17.556		RPD			1.327	20.000		08/14/08
MS	Chloride	16887-00-6	0.918	92.261	% Recov	80.000	120.000				08/14/08
MS	Fluoride	16984-48-8	0.49865	101.146	% Recov	80.000	120.000				08/14/08
MS	Nitrogen in Nitrite	NO2-N	0.4784	97.236	% Recov	80.000	120.000				08/14/08
MS	Nitrogen in Nitrate	NO3-N	0.4491	100.695	% Recov	80.000	120.000				08/14/08
MS	Sulfate	14808-79-8	1.7471	89.138	% Recov	80.000	120.000				08/14/08
MSD	Chloride	16887-00-6	0.9115	91.608	% Recov	80.000	120.000				08/14/08
MSD	Fluoride	16984-48-8	0.4957	100.548	% Recov	80.000	120.000				08/14/08
MSD	Nitrogen in Nitrite	NO2-N	0.4876	99.106	% Recov	80.000	120.000				08/14/08
MSD	Nitrogen in Nitrate	NO3-N	0.41975	94.114	% Recov	80.000	120.000				08/14/08
MSD	Sulfate	14808-79-8	1.6764	85.531	% Recov	80.000	120.000				08/14/08
SPK-RPD	Chloride	16887-00-6	91.608		RPD			0.710	20.000		08/14/08
SPK-RPD	Fluoride	16984-48-8	100.548		RPD			0.593	20.000		08/14/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	99.106		RPD			1.905	20.000		08/14/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	94.114		RPD			6.756	20.000		08/14/08
SPK-RPD	Sulfate	14808-79-8	85.531		RPD			4.130	20.000		08/14/08
BATCH QC											
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	08/14/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	08/14/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	08/14/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	08/14/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081736
 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 Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	08/14/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	08/14/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	08/14/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	08/14/08
LCS	Chloride	16887-00-6	201.4201	100.209	% Recov	80.000	120.000				08/14/08
LCS	Chloride	16887-00-6	196.9433	97.982	% Recov	80.000	120.000				08/14/08
LCS	Fluoride	16984-48-8	108.5712	109.007	% Recov	80.000	120.000				08/14/08
LCS	Fluoride	16984-48-8	111.7975	112.246	% Recov	80.000	120.000				08/14/08
LCS	Nitrogen in Nitrite	NO2-N	95.8553	96.434	% Recov	80.000	120.000				08/14/08
LCS	Nitrogen in Nitrite	NO2-N	98.8522	99.449	% Recov	80.000	120.000				08/14/08
LCS	Nitrogen in Nitrate	NO3-N	90.1066	100.007	% Recov	80.000	120.000				08/14/08
LCS	Nitrogen in Nitrate	NO3-N	92.8255	103.025	% Recov	80.000	120.000				08/14/08
LCS	Sulfate	14808-79-8	394.3108	99.573	% Recov	80.000	120.000				08/14/08
LCS	Sulfate	14808-79-8	386.056	97.489	% Recov	80.000	120.000				08/14/08

M4W41-SLF-08-946

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 5 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

Due on
9/11/08

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081736

The following samples were received from you on 08/13/08. 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
W08P003951	B1WFR2	TRENT @IC-30	Water	08/13/08
W08P003952	B1WFR8	TRENT @IC-30	Water	08/13/08
W08P003954	B1WD25	TRENT @IC-30	Water	08/13/08

Test Acronym Description

Test Acronym	Description
@IC-30	Anions by Ion Chromatography

