

RECEIVED JULY 29, 2008

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FLUOR**Memorandum**

M4W41-SLF-08-754

To: H. Hampt E6-35 Date: July 29, 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 WSCF20081248

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 WSCF20081248:

- Cover Sheet (Attachment 1)
- Narrative (Attachment 2)
- Issue Resolution Form (Attachment 3)
- Analytical Results (Attachment 4)
- Sample Receipt Information (Attachment 5)

SLF/grf

Attachments 5

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 JAN 29 2009

EDMC

M4W41-SLF-08-754

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20081248
Data Deliverable Date: 06-aug-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
G08-006	B1VJT5	W08P002958	WATER
	B1VJT7	W08P002956	WATER
	B1VJT9	W08P002952	WATER
	B1VJV1	W08P002954	WATER
	B1VJV3	W08P002949	WATER
	B1VJV5	W08P002948	WATER
	B1VJV7	W08P002951	WATER
	B1VJV9	W08P002953	WATER
	B1VJW4	W08P002955	WATER
	B1VJW6	W08P002950	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Introduction

Ten groundwater or S&GRP samples were received at the WSCF Laboratory on June 23, 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 copy of a draft Issue Resolution Form documenting missed TOC hold time is included as Attachment 3. A Data Summary Report (Attachment 4) 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 5.

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*, pages 13 through 14, 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 16 through 18 for QC details. Analytical Note(s):

- 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.

Total Organic Carbon – The hold time requirement for this analysis was not met. See comment below. A Matrix Spike, Matrix Spike Duplicate, Blank and Method Spike were analyzed with this delivery group per the GRP Letter of Instruction. See page 19 for QC details. Analytical Note(s):

- Missed Hold Time – Sample was analyzed on July 22, 2008. Refer to proposed IRF (Attachment 3).

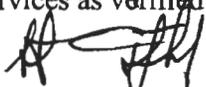
All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See page 30 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

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ATTACHMENT 3

ISSUE RESOLUTION FORM

Consisting of 2 pages
Including cover page

ISSUE RESOLUTION FORM

PNNL TRACKING NUMBER: 08-XXX

DRAFT

Date : 7-28-2008 SAF No. G08-006

SDG: WSCF20081248 LOGIN No.: TEST: TOC -30

Sample No.(s) B1VJT5

(W08P002958)

Submitted By: WW Baird Submitted To: H Hampt
Phone No. 373-7189 Phone No. 376-4319
Fax No. 372-0456 Fax No

ISSUE

PROPOSED RESOLUTION

Missed regulatory holding time for TOC on GPAP sample.

Accept TOC result (accept as-is) and document missed holding time in the case narrative.

Sample was collected and delivered to the WSCF Laboratory on June 23, 2008. However, due to a WSCF Laboratory error, analysis of the TOC sample was slightly delayed beyond the 28-day regulatory hold time requirement.

On July 22, 2008, TOC sample was successfully analyzed with all associated QC controls within established laboratory limits.

GRP COMMENTS

Signature and Date

M4W41-SLF-08-754

ATTACHMENT 4

ANALYTICAL RESULTS

Consisting of 22 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical:

S. Fitzgerald 7/29/08

Client Services:

P.O. Mix 7/28/2008

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#: WSCF20081248
Report Date: 28-jul-2008
Report WGPP/ver. 5.2
GPAP

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081248

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36822	2	37247	41584	BLANK		Anions by Ion Chromatography
36822	12	37247	41584	BLANK		Anions by Ion Chromatography
36822	24	37247	41584	BLANK		Anions by Ion Chromatography
36822	3	37247	41584	LCS		Anions by Ion Chromatography
36822	13	37247	41584	LCS		Anions by Ion Chromatography
36822	15	37247	41584	DUP	W08P002929	Anions by Ion Chromatography
36822	16	37247	41584	MS	W08P002929	Anions by Ion Chromatography
36822	17	37247	41584	MSD	W08P002929	Anions by Ion Chromatography
36822	17	37247	41584	SPK-RPD	W08P002929	Anions by Ion Chromatography
36822	5	37247	41584	DUP	W08P002958	Anions by Ion Chromatography
36822	6	37247	41584	MS	W08P002958	Anions by Ion Chromatography
36822	7	37247	41584	MSD	W08P002958	Anions by Ion Chromatography
36822	4	37247	41584	SAMPLE	W08P002958	Anions by Ion Chromatography
36822	7	37247	41584	SPK-RPD	W08P002958	Anions by Ion Chromatography
37239	1	37671	41987	BLANK		Total Organic Carbon
37239	2	37671	41987	METHSPIKE		Total Organic Carbon
37239	19	37671	41987	METHSPIKE		Total Organic Carbon
37239	3	37671	41987	SPK-RSD		Total Organic Carbon
37239	20	37671	41987	SPK-RSD		Total Organic Carbon
37239	4	37671	41987	MS	W08P002958	Total Organic Carbon
37239	5	37671	41987	MSD	W08P002958	Total Organic Carbon
37239	7	37671	41987	SAMPLE	W08P002958	Total Organic Carbon
37239	5	37671	41987	SPK-RPD	W08P002958	Total Organic Carbon
37239	21	37671	41987	MS	W08P003047	Total Organic Carbon
37239	22	37671	41987	MSD	W08P003047	Total Organic Carbon
37239	22	37671	41987	SPK-RPD	W08P003047	Total Organic Carbon

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20081248

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36963	1	37386	41891	BLANK		Gross Alpha/Gross Beta (AB32)
36963	2	37386	41891	LCS		Gross Alpha/Gross Beta (AB32)
36963	3	37386	41891	DUP	W08P002948	Gross Alpha/Gross Beta (AB32)
36963	4	37386	41891	SAMPLE	W08P002948	Gross Alpha/Gross Beta (AB32)
36963	5	37386	41891	SAMPLE	W08P002949	Gross Alpha/Gross Beta (AB32)
36963	6	37386	41891	SAMPLE	W08P002950	Gross Alpha/Gross Beta (AB32)
36963	7	37386	41891	SAMPLE	W08P002951	Gross Alpha/Gross Beta (AB32)
36963	8	37386	41891	SAMPLE	W08P002952	Gross Alpha/Gross Beta (AB32)
36963	9	37386	41891	SAMPLE	W08P002953	Gross Alpha/Gross Beta (AB32)
36963	10	37386	41891	SAMPLE	W08P002954	Gross Alpha/Gross Beta (AB32)
36963	11	37386	41891	SAMPLE	W08P002955	Gross Alpha/Gross Beta (AB32)
36963	12	37386	41891	SAMPLE	W08P002956	Gross Alpha/Gross Beta (AB32)
36963	13	37386	41891	SAMPLE	W08P002958	Gross Alpha/Gross Beta (AB32)

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-344-406	LA-344-406: TOTAL ORGANIC CARBON (TOC) BASED ON SW-846
EPA SW-846 9060	TOTAL ORGANIC CARBON
HEIS 9060_TOC	Total Organic Carbon
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: 28-jul-2008
Report#: WSCF20081248
Report WGPPM/5.2

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WSCF METHOD REFERENCES REPORT

Department: Radiochemistry

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-508-415	LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS
HEIS ALPHA_GPC	GROSS ALPHA GPC
HEIS BETA_GPC	GROSS BETA GPC
HEIS SRTOT_SEP_PRECIP_GPC	Protactinium 231/232

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: 28-jul-2008
Report#: WSCF20081248
Report WGPPM/5.2

Page 1

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P002958
Client ID: B1VJT5

Group #: WSCF20081248
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

PNNL
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	BD	0.0518	mg/L			2.00	0.042		06/24/08
Chloride	16887-00-6	LA-533-410	D	0.999	mg/L			2.00	0.22		06/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	DU	< 0.0720	mg/L			2.00	0.072		06/24/08
Phosphate (P) by IC	PO4-P	LA-533-410	DU	< 0.0640	mg/L			2.00	0.064		06/24/08
Sulfate	14808-79-8	LA-533-410	D	7.52	mg/L			2.00	0.15		06/24/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		1.55	mg/L			1.00	0.30		07/22/08

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

Report WGPP/ver. 5.2

GPAP

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081248
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 06/22/08
 Receive Date: 06/23/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002929											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	10.3561		RPD			0.269	20.000		06/24/08
DUP	Fluoride	16984-48-8	1.069		RPD			0.732	20.000		06/24/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	06/24/08
DUP	Nitrogen in Nitrate	NO3-N	<7.2e-2		RPD			n/a	20.000	U	06/24/08
DUP	Sulfate	14808-79-8	<0.154		RPD			n/a	20.000	U	06/24/08
MS	Chloride	16887-00-6	0.9885	99.347	% Recov	80.000	120.000				06/24/08
MS	Fluoride	16984-48-8	0.52325	106.136	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrite	NO2-N	0.49475	100.559	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrate	NO3-N	0.43175	96.805	% Recov	80.000	120.000				06/24/08
MS	Sulfate	14808-79-8	1.7593	89.760	% Recov	80.000	120.000				06/24/08
MSD	Chloride	16887-00-6	0.9617	96.653	% Recov	80.000	120.000				06/24/08
MSD	Fluoride	16984-48-8	0.51735	104.939	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.48785	99.157	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrate	NO3-N	0.4318	96.816	% Recov	80.000	120.000				06/24/08
MSD	Sulfate	14808-79-8	1.7538	89.480	% Recov	80.000	120.000				06/24/08
SPK-RPD	Chloride	16887-00-6	96.653		RPD			2.749	20.000		06/24/08
SPK-RPD	Fluoride	16984-48-8	104.939		RPD			1.134	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	99.157		RPD			1.404	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	96.816		RPD			0.011	20.000		06/24/08
SPK-RPD	Sulfate	14808-79-8	89.480		RPD			0.312	20.000		06/24/08
Lab ID: W08P002958											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	1.0096		RPD			1.065	20.000		06/24/08
DUP	Fluoride	16984-48-8	5.03e-2		RPD			2.552	20.000		06/24/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	06/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081248
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 06/23/08
 Receive Date: 06/23/08

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	<7.2e-2		RPD			n/a	20.000	U	06/24/08
DUP	Phosphate (P) by IC	PO4-P	<6.4e-2		RPD			n/a	20.000	U	06/24/08
DUP	Sulfate	14808-79-8	7.5537		RPD			0.458	20.000		06/24/08
MS	Chloride	16887-00-6	0.90445	90.899	% Recov	80.000	120.000				06/24/08
MS	Fluoride	16984-48-8	0.49195	99.787	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrite	NO2-N	0.4679	95.102	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrate	NO3-N	0.44385	99.518	% Recov	80.000	120.000				06/24/08
MS	Phosphate (P) by IC	PO4-P	0.781	81.609	% Recov	80.000	120.000				06/24/08
MS	Sulfate	14808-79-8	1.8497	94.372	% Recov	80.000	120.000				06/24/08
MSD	Chloride	16887-00-6	0.9103	91.487	% Recov	80.000	120.000				06/24/08
MSD	Fluoride	16984-48-8	0.4958	100.568	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.4725	96.037	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrate	NO3-N	0.4519	101.323	% Recov	80.000	120.000				06/24/08
MSD	Phosphate (P) by IC	PO4-P	0.79495	83.067	% Recov	80.000	120.000				06/24/08
MSD	Sulfate	14808-79-8	1.8876	96.306	% Recov	80.000	120.000				06/24/08
SPK-RPD	Chloride	16887-00-6	91.487		RPD			0.645	20.000		06/24/08
SPK-RPD	Fluoride	16984-48-8	100.568		RPD			0.780	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	96.037		RPD			0.978	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	101.323		RPD			1.797	20.000		06/24/08
SPK-RPD	Phosphate (P) by IC	PO4-P	83.067		RPD			1.771	20.000		06/24/08
SPK-RPD	Sulfate	14808-79-8	96.306		RPD			2.029	20.000		06/24/08
BATCH QC											
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081248
 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	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/24/08
BLANK	Phosphate (P) by IC	PO4-P	<3.2e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Phosphate (P) by IC	PO4-P	<3.2e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Phosphate (P) by IC	PO4-P	<3.2e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/24/08
LCS	Chloride	16887-00-6	194.6407	96.836	% Recov	80.000	120.000				06/24/08
LCS	Chloride	16887-00-6	195.0062	97.018	% Recov	80.000	120.000				06/24/08
LCS	Fluoride	16984-48-8	102	102.410	% Recov	80.000	120.000				06/24/08
LCS	Fluoride	16984-48-8	103.5136	103.929	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrite	NO2-N	99.1071	99.705	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrite	NO2-N	99.2788	99.878	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrate	NO3-N	91.3258	101.360	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrate	NO3-N	91.1324	101.146	% Recov	80.000	120.000				06/24/08
LCS	Phosphate (P) by IC	PO4-P	185.1907	95.755	% Recov	80.000	120.000				06/24/08
LCS	Phosphate (P) by IC	PO4-P	183.6336	94.950	% Recov	80.000	120.000				06/24/08
LCS	Sulfate	14808-79-8	374.2748	94.514	% Recov	80.000	120.000				06/24/08
LCS	Sulfate	14808-79-8	374.9861	94.693	% Recov	80.000	120.000				06/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081248
 Matrix: WATER
 Test: Total Organic Carbon

Sample Date: 06/23/08
 Receive Date: 06/23/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002958											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	4.070	101.750	% Recov	75.000	125.000				07/22/08
MSD	Total Organic Carbon	TOC	4.081	102.025	% Recov	75.000	125.000				07/22/08
SPK-RPD	Total Organic Carbon	TOC	102.025		RPD			0.270	20.000		07/22/08
Lab ID: W08P003047											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	4.251	106.275	% Recov	75.000	125.000				07/22/08
MSD	Total Organic Carbon	TOC	4.262	106.550	% Recov	75.000	125.000				07/22/08
SPK-RPD	Total Organic Carbon	TOC	106.550		RPD			0.258	20.000		07/22/08
BATCH QC											
BLANK	Total Organic Carbon	TOC	< 0.045	n/a	mg/L	0.000	300.000			U	07/22/08
METHSPIKE	Total Organic Carbon	TOC	2.154	107.700	% Recov	80.000	120.000				07/22/08
METHSPIKE	Total Organic Carbon	TOC	2.179	108.950	% Recov	80.000	120.000				07/22/08
SPK-RSD	Total Organic Carbon	TOC	0.4182	0.418	% RSD	0.000	20.000				07/22/08
SPK-RSD	Total Organic Carbon	TOC	0.4127	0.413	% RSD	0.000	20.000				07/22/08

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P002948
Client ID: B1VJV5

Group #: WSCF20081248
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

PNNL
 WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		120	pCi/L	+ -12.0	pCi/L	1.00	1.6		07/09/08

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

Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P002949
Client ID: B1VJV3

Group #: WSCF20081248
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

PNNL
WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		340	pCi/L	+ -34.0	pCi/L	1.00	1.6		07/09/08

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P002950
Client ID: B1VJW6

Group #: WSCF20081248
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

PNNL
WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		47.0	pCi/L	+ -5.17	pCi/L	1.00	1.5		07/09/08

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P002951
Client ID: B1VJV7

Group #: WSCF20081248
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

PNNL
WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415	U	1.30	pCi/L	+ -0.982	pCi/L	1.00	1.8		07/09/08

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)

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

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

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P002952
Client ID: B1VJT9

Group #: WSCF20081248
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

PNNL
 WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		740	pCi/L	+ -74.0	pCi/L	1.00	1.6		07/09/08

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

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P002953
Client ID: B1VJV9

Group #: WSCF20081248
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

PNNL
 WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415	U	1.50	pCi/L	+0.975	pCi/L	1.00	1.6		07/09/08

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P002954
Client ID: B1VJV1

Group #: WSCF20081248
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

PNNL
 WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		52.0	pCi/L	+ -5.72	pCi/L	1.00	1.6		07/09/08

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: G08-006

Sample # W08P002955

Client ID: B1VJW4

PNNL
WSCF

Matrix: WATER

Group #: WSCF20081248

Department: Radiochemistry

Sampled: 06/23/08

Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		2.70	pCi/L	+ -1.11	pCi/L	1.00	1.6		07/09/08

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

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P002956
Client ID: B1VJT7

Group #: WSCF20081248
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

PNNL
 WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		190	pCi/L	+ -19.0	pCi/L	1.00	1.6		07/09/08

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 NDT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P002958
Client ID: B1VJT5

Group #: WSCF20081248
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

PNNL
 WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		1.70	pCi/L	+ -0.986	pCi/L	1.00	1.5		07/09/08

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

Report WGPP/ver. 5.2

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081248
 Matrix: WATER
 Test: Gross Alpha/Gross Beta (AB32)

Sample Date: 06/23/08
 Receive Date: 06/23/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002948											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross beta	12587-47-2	1.1E+02		RPD			8.696	20.000		07/09/08
BATCH QC											
BLANK	Gross beta	12587-47-2	U-4.5E-01	n/a	pCi/L	-10.000	10.000				07/09/08
LCS	Gross beta	12587-47-2	124.0	110.517	% Recov	80.000	120.000				07/09/08

M4W41-SLF-08-754

ATTACHMENT 5

SAMPLE RECEIPT INFORMATION

Consisting of 12 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

8/6/08
File KB

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081248

The following samples were received from you on 06/23/08. 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
W08P002948	B1VJV5	PNNL @AB-32	Water	06/23/08
W08P002949	B1VJV3	PNNL @AB-32	Water	06/23/08
W08P002950	B1VJW6	PNNL @AB-32	Water	06/23/08
W08P002951	B1VJV7	PNNL @AB-32	Water	06/23/08
W08P002952	B1VJT9	PNNL @AB-32	Water	06/23/08
W08P002953	B1VJV9	PNNL @AB-32	Water	06/23/08
W08P002954	B1VJV1	PNNL @AB-32	Water	06/23/08
W08P002955	B1VJW4	PNNL @AB-32	Water	06/23/08
W08P002956	B1VJT7	PNNL @AB-32	Water	06/23/08
W08P002958	B1VJT5	PNNL @AB-32	Water	06/23/08
		@IC-30	@TPHD-WA	TOC-30

Test Acronym Description

Test Acronym	Description
@AB-32	Gross Alpha/Gross Beta (AB32)
@IC-30	Anions by Ion Chromatography
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
TOC-30	Total Organic Carbon

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

G08-006-61

Page 1 of 1

Collector <i>Rosane, McIntyre</i>	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN FAX
SAF No. G08-006	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title INR2-RE JUNE 2008		Ice Chest No.	Temp.
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.	
Protocol SURV	Priority: 45 Days	Offsite Property No.	
POSSIBLE SAMPLE HAZARDS/REMARKS		SPECIAL INSTRUCTIONS 100 Area Generator Knowledge Information Form applies.	Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VJV7		W	6-23-08	1140	1x500-mL G/P	Gross Beta	HNO3 to pH <2
	41						

ICED

Relinquished By <i>Larry Rosane</i>	Print <i>Larry Rosane</i>	Sign <i>Larry Rosane</i>	Date/Time 6-23-08/1455	Received By <i>M.S. Heagerty</i>	Print <i>M.S. Heagerty</i>	Sign <i>M.S. Heagerty</i>	Date/Time 6/23/08	Matrix * S = Soil DS = Drum Solid SF = Sediment DI = Drum Liner SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Lint O = Oil V = Vegetation A = Air X = Other
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
Relinquished By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)			Disposed By			Date/Time	

560142

